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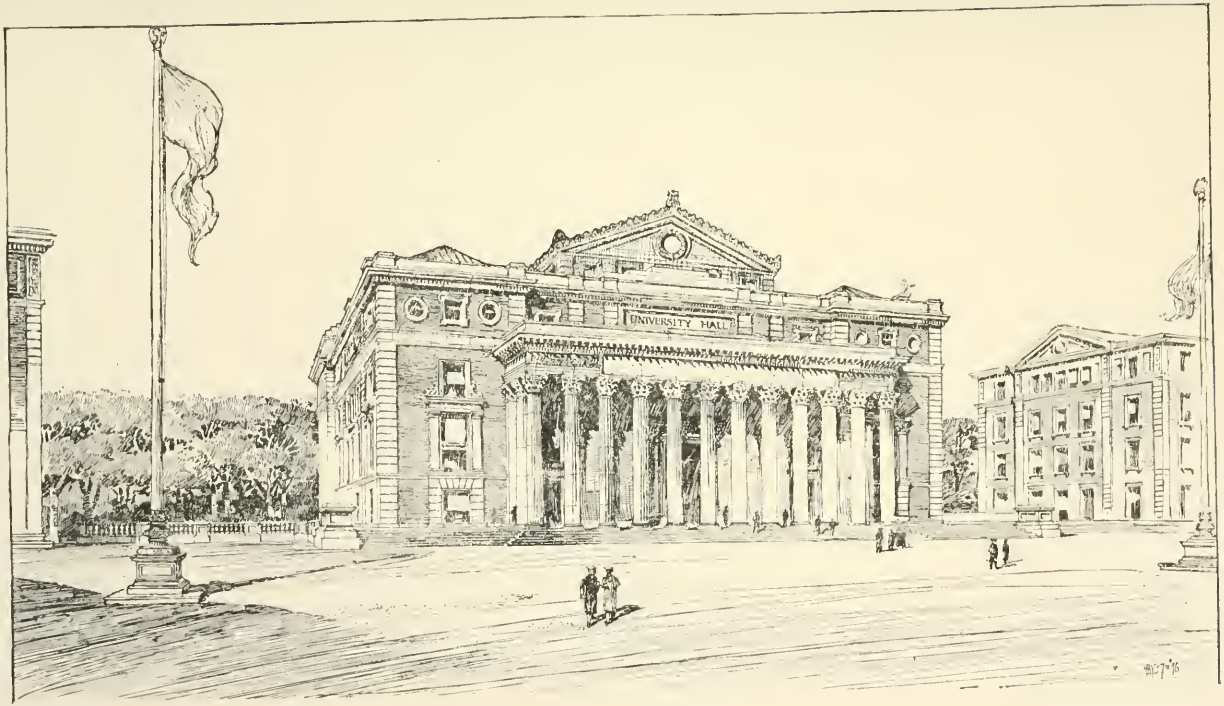

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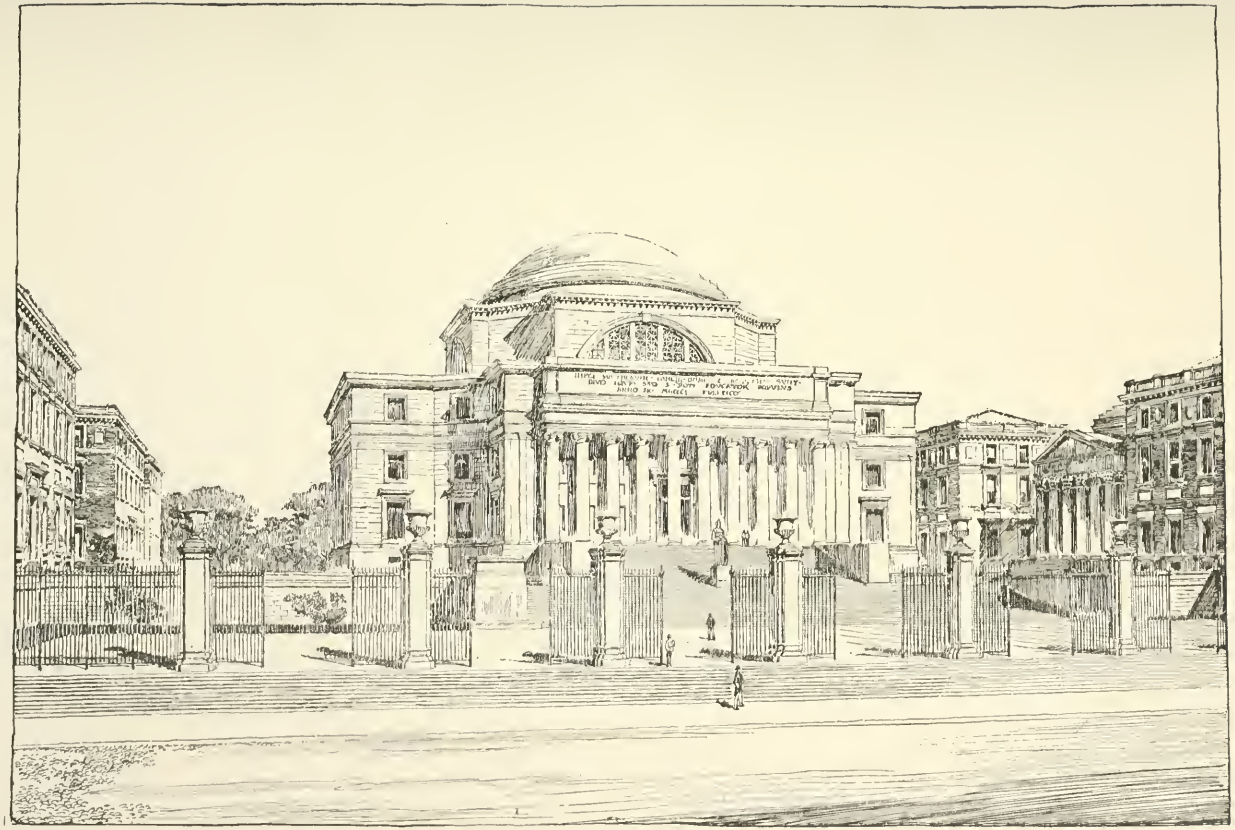

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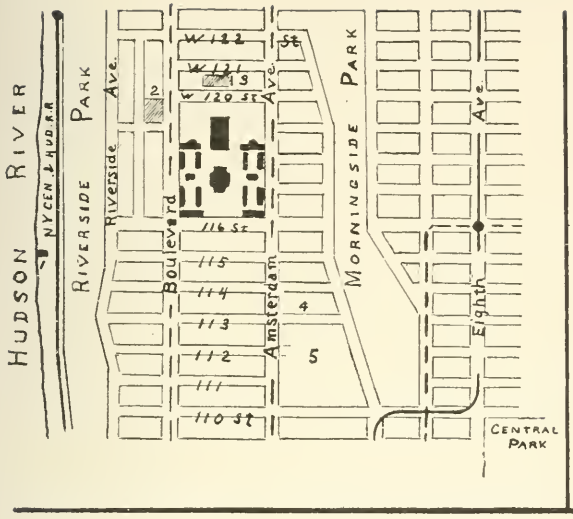

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3 Teachers College
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5 Cathedral of St. John the Divine
6, 7 Grand Stand and Club House

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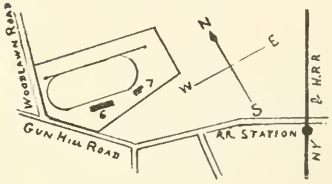

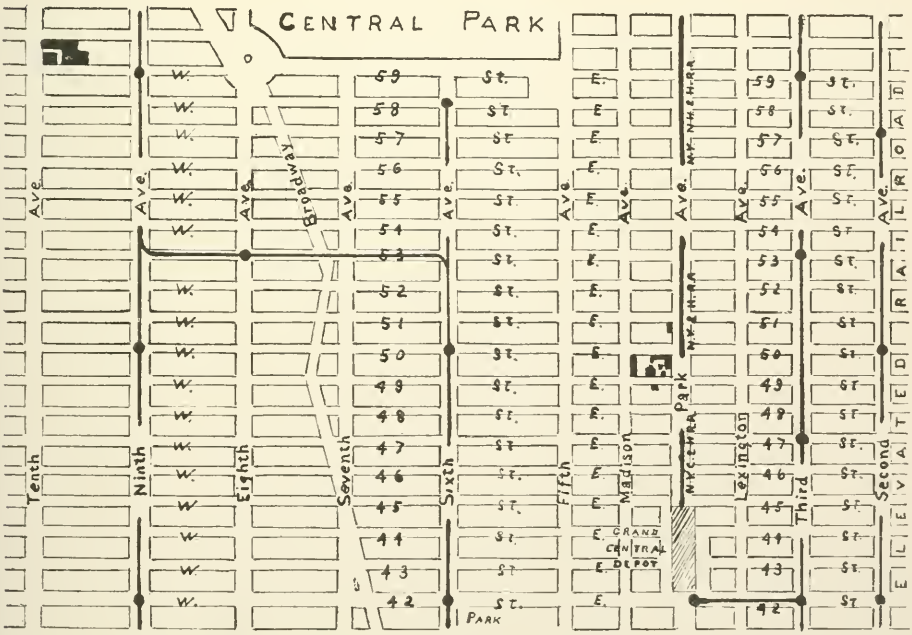

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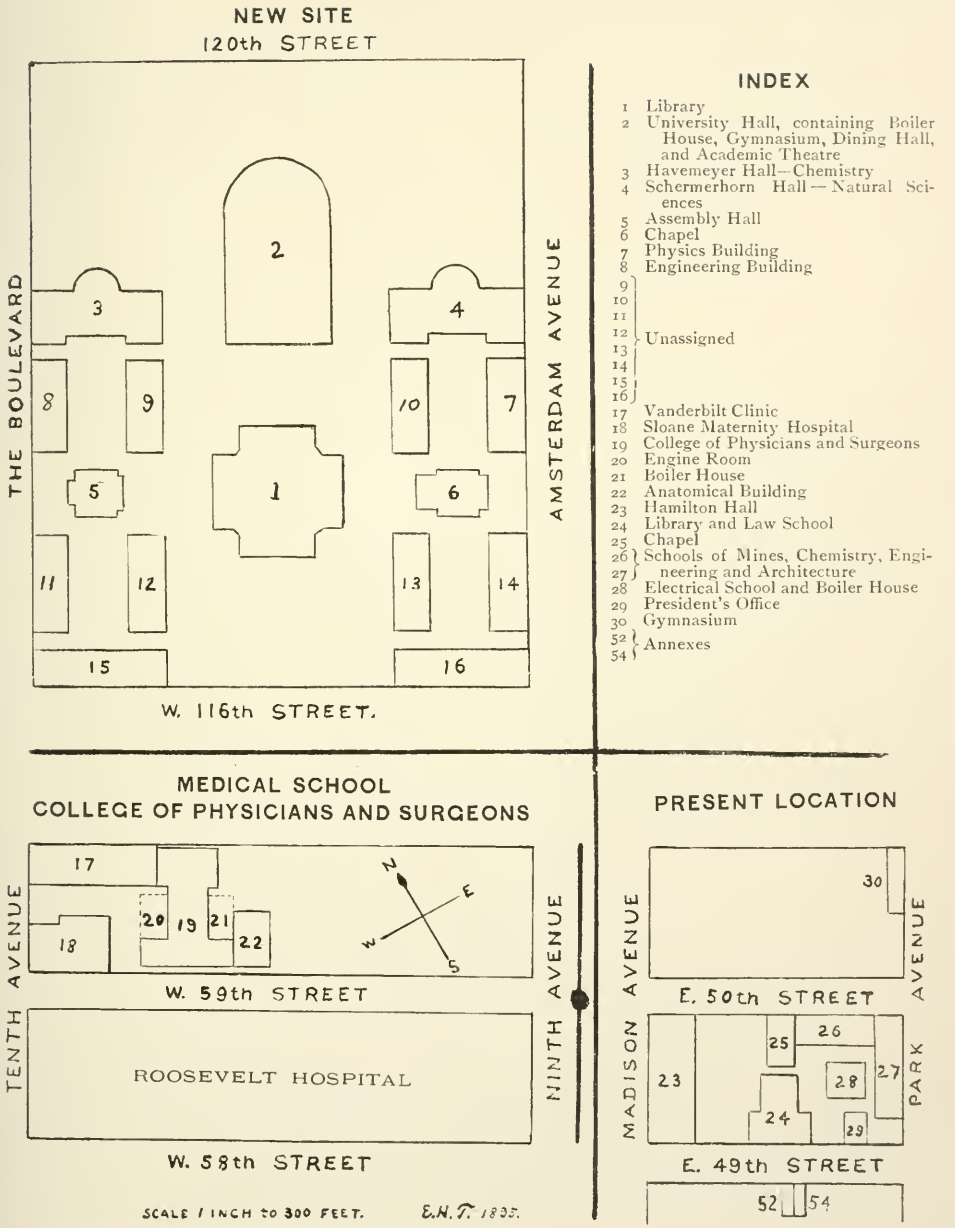
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INDEX
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3 Havemeyer Hall—Chemistry
4 Schermerhorn Hall—Natural Sciences
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Instructor in Microscopy and Micro-biology

FERDINAND G. WIECHMANN, Ph.D.....671 West End Avenue
Instructor in Chemical Philosophy and Chemical Physics

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Instructor in Normal Histology

FRANK HARTLEY, M.D.....46 East 34th Street
Instructor in Operative Surgery

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Instructor in Drawing

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Instructor in Physical Diagnosis

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* Absent on leave

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HENRY C. BOWEN ..... 212 East 50th Street
Tutor in Quantitative Analysis

JOSEPH C. PFISTER, A.M. ..... 240 Sixth Avenue, Roseville, Newark, N. J.
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Assistants

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Assistant in Pathology, and Curator

ALEXANDER R. CUSHMAN, Ph.D.....128 East 16th Street
Assistant in Chemistry

HERBERT PERCY WHITLOCK, C.E.....449 Park Avenue
Assistant in Mineralogy

HENRY SKILLMAN CURTIS, A.B.....Columbia University
Assistant in Physics

HERBERT TREADWELL WADE, A.B.....149 East 46th Street
Assistant in Physics

LUTHER E. GREGORY, C.E.....342 Lexington Avenne
Assistant in Mechanical Engineering

PARKER C. MCILHINEY, Ph.D.....49 St. Nicholas Place
Assistant in Metallurgy

EDWIN M. KITCHEL, M.D.....370 Washington Avenue, Newark, N. J.
Assistant in Normal Histology

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Assistant in Political Economy and Social Science

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Assistant in Philosophy

THOMAS H. HARRINGTON, C.E.....Westchester, N. Y.
Assistant in Mechanical Engineering

HENRY JAGOE BURCHELL, Jr., A.M.....38 East 53d Street
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CHARLES KNAPP, Ph.D.....1773 Sedgwick Avenue
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HARRISON G. DYAR, Ph.D.....243 West 99th Street
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FREDERICK R. BAILEY, M.D.....1165 East Jersey Street, Elizabeth, N. J.
Assistant in Normal Histology

NATHAN RUSSELL HARRINGTON, A.M.....18 West 43d Street
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PHILIP HANSON HISS, Jr.....1 West 30th Street
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DANA C. WELLS, A.B., E.E.....Columbia University
Assistant in Physics

BEN M. JAQUISH, B.S.....437 West 59th Street
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Assistant in Mathematics

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Assistant in Architecture

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Assistant in Assaying

EDWARD H. L. MCGINNIS, M.D.....329 Amsterdam Avenue
Electro-Therapeutist to the Department of Diseases of Women

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Computer at the Observatory

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Professor of Medical Jurisprudence

FREDERIC BANCROFT, Ph.D.....233 Fifth Avenue
Lecturer on American History

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Prize Lecturer in Physical Geography and Ethnology

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Chiefs of Clinics at the Vanderbilt Clinic

D. BRYSON DELAVAN, M.D.....1 East 33d Street
Department of Laryngology

FRANCIS HUBER, M.D.....209 East 17th Street
Department of Diseases of Children

FRANK W. JACKSON, M.D. ..... 12 West 18th Street
Department of Medicine

GEORGE T. JACKSON, M.D. ..... 14 East 31st Street
Department of Dermatology

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Department of Neurology

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JAMES H. BURTENSHAW, M.D.	Gynecology
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WILLIAM H. CASWELL, M.D.	Neurology
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RICHARD FROTHINGHAM, M.D.	Laryngology
JOSEPH E. FULD, M.D.	Laryngology
HOMER W. GIBNEY, M.D.	Orthopædic Surgery
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JOSEPH J. HIGGINS, M.D.	Surgery
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Nathaniel Lord Britton, Ph.D. ..... New York Botanical Garden
Emeritus Professor of Botany

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L. = Library Building. P. H. = President's House. P. & S. = College of Physicians and Surgeons.
52 = 52 East 49th St. 54 = 54 East 49th St. V. C. = Vanderbilt Clinic.

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Atwood, C. E., Clin. Asst. (12)		V. C.	
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Bailey, F. R., Asst. (10)		P. & S.	1165 E. Jersey St., Elizabeth, N. J.
Bailey, P., Clin. Asst. (12)		V. C.	
Bainbridge, W. S., Clin. Asst. (12)		V. C.	
Baker, G. H., Librarian (xi)	Daily, 10.30–1	L. 18	294 Manhattan Ave.
Bancroft, F., Lect. (11)	T., 5.30		
Bandler, D., Prize Lect. (11)			70 W. 51
Beebe, W. H. H., Sec. (xi)	M., W., F., 9.30–5	P. H. 6	425 W. 117
Beer, G. L., Prize Lect. (11)			
Bierhoff, F., Clin. Asst. (12)		V. C.	
Bill, E. W., Clin. Asst. (12)		V. C.	
Bishop, L. F., Clin. Asst. (12)		V. C.	
Black, A., Tutor (9)	Daily ex. Sat., 10–12.30, 2.30–4.30		1434 Lex. Ave.
Blake, J. A., Asst. Dem. (5)		P. & S.	1 E. 33
Boag, E. T., Registrar (xi)		P. & S.	437 W. 59
Boas, F., Lect. (11)	M., W., 10.30	P. H. 17	123 W. 82
Bogert, M. T., Asst. (9)	Daily ex. Sat., 2–5		259 B'way, Flushing, N. Y.
Bowen, H. C., Tutor (8)	Tu., W., Th., F., 10–4.30	M.	212 E. 50
Brannan, J. W., Clin. Lect. (5)		P. & S.	11 W. 12
Braunlich, A. R., Clin. Asst. (12)		V. C.	
Brewer, G. E., Asst. Dem. (5)		P. & S.	68 W. 46
Brewster, W. T., Tutor (8)	M., Tu., Th., F., 9.30	H. H. 35	143 W. 64
Britton, N. L., Emer. Prof. (13)			N. Y. Botanical Garden.
Brockway, F. J., Asst. Dem. (5)		P. & S.	183 W. 73
Brodhead, G. L., Instr. (7)		P. & S.	
Brouner, W. B., Clin. Asst. (12)		V. C.	
Buck, A. H. Clin. Prof. (5)		P. & S.	14 E. 45
Bull, W. T., Prof. (2)		P. & S.	35 W. 35
Burchell, H. J., Jr., Asst. (9)			38 E. 53
Burdick, F. M., Prof. (2)	W., Th., F., 4.30–5	L. 1	115th St. & Riverside Drive.
Burgess, J. W., Prof. (1)	M., Tu., W., Th., 3.30–4.30	H. H. 44	323 W. 57
Burr, W. H., Prof. (3)	Daily ex. Sat., 2.30–5	M. 75	151 W. 74
Burtenshaw, J. H., Clin. Asst. (12)		V. C.	
Butler, N. M., Prof. (2)	M., W., 2	H. H. 46	119 E. 30
Cabot, J., Clin. Asst. (12)		V. C.	
Calkins, G. N., Tutor (8)		P. & S.	
Campbell, A., Clin. Asst. (12)		V. C.	
Canfield, G. F., Prof. (4)	M., 4.30–6; Tu., 2.30–3.30, 4.30–5.30	L. 10	32 E. 33
Carmalt, C. C., Asst. Dem. (6)		P. & S.	40 E. 58
Carpenter, G. R., Prof. (4)	M., W., Th., F., 12.30	54.	Glen Ridge, N. J.
Carpenter, W. H., Prof. (2)	F. 12	54. 7	
Carter, C. B., Clin. Asst. (12)		V. C.	
Caswell, W. H., Clin. Asst. (12)		V. C.	
Cattell, J. McK., Prof. (2)	F., 1.30	P. H. 17	Garrison, N. Y.

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Cheesman, T. M., Instr. (6)		P. & S.	46 E. 29
Chittenden, J. B., Tutor (8)	Daily ex. Sat., 11.30–12.30	H. H. 34	138 E. 49
Claiborne, J. H., Instr. (7)		P. & S.	39 W. 36
Clark, J. B., Prof. (4)	M., W., 3.30	H. H. 44	280 W. 70
Coburn, E. B., Clin. Asst. (12)		V. C.	
Cohn, A., Prof. (3)	Absent on leave		
Colby, C. E., Adj. Prof. (2)	Daily ex. Sat., 1.30–4		1933 Mad. Ave.
Cole, F. N., Prof. (4)	M., 1.30–2.30	H. H. 38	Montclair, N. J.
Colles, C. J., Clin. Asst. (12)		V. C.	
Collins, H. D., Asst. Dem. (6)		P. & S.	119 E. 35
Connor, L. A., Clin. Asst. (12)		V. C.	
Cowen, W., Instr. (7)		P. & S.	35 E. 60
Cragin, E. B., Sec. Med. Fac. (xi)		P. & S.	62 W. 50
Crocker, F. B., Prof. (3)	Tu., 2.30–5.30; W., F., 11.30–12.30	E.	110 W. 39
Cumming, G. M., Prof. (2)			21 Cortlandt St.
Cunningham, R. H., Asst. Dem. (6)		P. & S.	59 W. 65
Curtis, C. C., Tutor (8)		L. 21	Mt. Vernon, N. Y.
Curtis, E., Emer. Prof. (13)			120 B'way
Curtis, H. S., Asst. (9)	M., W., 1.30–4.30	H. H. 55	
Curtis, J. G., Prof. (2)		P. & S.	327 W. 58
Cushing, H. A., Tutor (9)	M., F., 9.30	52. 4	251 W. 54
Cushman, A. R., Asst. (9)	Daily ex. Sat., 2–5	M.	128 E. 16
Dade, C. T., Clin. Asst. (12)		V. C.	
Darling, E. A., Supt. Buildings and Grounds (xi)	Daily ex. Sat., 10–11	P. H. 7	116th St. & Boulevard
Davis, H. S., Tutor (8)	Daily ex. Sat., 11–4	L.	
Day, A. M., Asst. (9)	W., 11.30–1	52. 6	432 Mad. Ave.
Dean, B., Adj. Prof. (4)	M., Tu., 11.30–12.30	P. & S.	20 W. 82
Delafield, F., Prof. (1)		P. & S.	12 W. 32
Delavan, D. B., Chief Clin. (11)		V. C.	1 E. 33
Derleth, C., Jr., Asst. (10)			674 E. 135
Douay, G., Lect. (11)	M., 2.30	52. 15	219 W. 44
Draper, W. H., Clin. Prof. (4)		P. & S.	19 E. 47
Draper, W. K., Instr. (7)		P. & S.	19 E. 47
Drisler, H., Emer. Prof. (13)			48 W. 46
Duffie, C. R., Rev., Chaplain Emer. (13)			263 Lex. Ave.
Dunning, W. A., Prof. (3)	Tu., F., 3.30–4	H. H. 44	70 Hanson Pl., B'klyn
Dwight, J., Jr., Clin. Asst. (12)		V. C.	
Dyar, H. G., Asst. (10)		P. & S.	
Egbert, J. C., Adj. Prof. (4)	F., 12.30–1.30	54. 6	364 Webster Ave., Jersey City Hgts.
Egleston, T., Prof. (1)	M., Tu., W., 12.30–3	M. 36	35 Wash. Sq.
Eliot, E., Jr., Instr. (7)		P. & S.	48 W. 36
Ely, J. S., Asst. (9)		P. & S.	107 W. 74
Ely, L. W., Clin. Asst. (12)		V. C.	
Ewell, D., Asst. Dem. (5)		P. & S.	75 E. 56
Ewing, J., Tutor (8)		P. & S.	260 W. 57
Farrand, L., Instr. (6)	Tu., 11.30	P. H. 17	121 E. 30
Ferris, A. W., Clin. Asst. (12)		V. C.	
Fisher, G. F., Bursar (xi)	Daily	M. 31	
Fiske, T. S., Adj. Prof. (4)	M., Th., 2	H. H. 38	328 W. 57
Foote, E. M., Clin. Asst. (12)		V. C.	
Fox, G. H., Clin. Prof. (5)		P. & S.	18 E. 31
Foyé, A. E., Instr. (7)	M., Tu., 2–5	M. 76	163 W. 79
Freeborn, G. C., Instr. (6)		P. & S.	215 W. 70
Freedman, W. H., Tutor (8)	M., W., F., 12.30–2.30	E.	157 W. 119
Frothingham, R., Clin. Asst. (12)		V. C.	
Fuld, J. E., Clin. Asst. (12)		V. C.	
Gallaudet, B. B., Dem. (5)		P. & S.	102 W. 85
Germann, G. B., Asst. (10)	Tu., Th., 11.30–12.30		90 Norman Ave., B'klyn

NAME	OFFICE HOURS AND OFFICES AT THE UNIVERSITY		ADDRESS
Gibney, H. W., Clin. Asst. (12)		V. C.	
Gibney, V. P., Clin. Prof. (5)		P. & S.	19 Park Ave.
Giddings, F. H., Prof. (4)	W., 2.30, F., 1.30	H. H. 44	150 W. 79
Gilley, W. C., Clin. Asst. (12)		V. C.	
Goodnow, F. J., Prof. (2)	M., W., 3 30-4.30	H. H. 44	25 W. 74
Gordon, R., Instr. (7)	M., 2.30-4.30	H. H. 55	339 Lex. Ave.
Gottheil, R. J. H., Prof. (2)	F., 3.30	54. 10	169 W. 93
Gregory, L. F., Asst. (9)			342 Lex. Ave.
Griffin, H. A., Lect. (11)		P. & S.	
Gunn, C. A., Asst. (10)	Daily ex. Sat.	M.	
Hallock, W., Adj. Prof. (3)	Tu., 1.30-2	H. H. 51	213 W. 135
Hamlin, A. D. F., Adj. Prof. (2)	W., Th., 10.30-11.30	M. 58	261 Warburton Ave., Yonkers, N. Y.
Hardon, H. W., Prof. (4)	W., 2.30-5, Th., 4.30-5	L. 10	313 W. 71
Harpham, F. E., Obs. Comp. (10)	Daily ex. Sat., 9-3		31 W. 16
Harriman, C. A., Instr. (6)	Daily ex. Sat., 9-12	M. 59	78 W. 82
Harrington, N. R., Asst. (10)		P. & S.	18 W. 43
Harrington, T. H., Asst. (9)		M.	Westchester, N. Y. C.
Hartley, F., Instr. (6)		P. & S.	46 E. 34
Hayden, J. R., Instr. (7)		P. & S.	107 W. 55
Hervey, W. A., Tutor (9)	M., 1.30.; F., 11.30	54. 12	607 W. 138
Higgins, J. J., Clin. Asst. (12)		V. C.	
Hill, E. V., Clin. Asst. (12)		V. C.	
Hill, J. E., Tutor (8)	M., 10.30-11.30		22 Manhattan Ave.
Hiss, P. H., Asst. (10)		P. & S.	1 W. 30
Hobbs, A. B., Clin. Asst. (12)		V. C.	
Hodenpyl, E., Instr. (7)		P. & S.	36 W. 56
Hodgson, J. H. P., Clin. Asst. (12)		V. C.	
Holden, W. A., Clin. Asst. (12)		V. C.	
Hollick, A., Tutor (8)	M., F., 10-4; Tu., W., Th., 10-1		New Brighton, S. I.
Hotchkiss, L. W., Asst. Dem. (5)		52. 2	49 W. 50
Huber, F., Chief Clin. (11)		P. & S.	209 E. 17
Huber, J., Clin. Asst. (12)		V. C.	
Hunt, R., Tutor (9)		V. C.	
Huntington, G. S., Prof. (2)		P. & S.	35 W. 60
Hutton, F. R., Prof. (1)		P. & S.	50 E. 73
Hyslop, J. H., Prof. (4)	M., W., 11.30-12.30; F., 9.30-12.30	M. 74	296 Lex. Ave.
Jackson, A. V. W., Prof. (3)	Daily ex. Sat., 1.15 M., 10.30	H. H. 46 54. 11	16 Highland Place, Yonkers, N. Y.
Jackson, F. W., Chief Clin. (12)		V. C.	12 W. 18
Jackson, G. T., Chief Clin. (12)		V. C.	14 E. 31
Jacobi, A., Clin. Prof. (4)		P. & S.	110 W. 34
Jacoby, H., Adj. Prof. (4)	M., Tu., W., F., 9-10	H. H. 25	15 W. 53
James, W. B., Clin. Lect. (5)		P. & S.	268 Madison Ave.
Jaquish, B. M., Asst. (10)		P. & S.	
Jarman, G. W., Instr. (7)		P. & S.	61 W. 74
Johnson, A. B., Instr. (7)		P. & S.	46 W. 17
Julien, A. A., Instr. (6)	Daily ex. Sat., 2-3		71 E. 87
Keener, W. A., Prof. (2)	Daily ex. Sat., 9.30-10	L. 13	86 E. 56
Kelly, E., Lect. (11)			107 E. 60
Kemp, J. F., Prof. (3)	Tu., W., Th., F. 2-4	52. 2	211 W. 139
Kennedy, J. M., Clin. Asst. (12)		V. C.	
Kenyon, M., Clin. Asst. (12)		V. C.	
Keyes, H. E., Asst. (10)		H. H. 55	74 W. 46
Kinnicutt, F. P., Clin. Prof. (5)		P. & S.	42 W. 37
Kirchwey, G. W., Prof. (2)	M., Tu., W., 4.30-5.30	L. 2	113th St. & Boulevard
Kitchel, E. M., Asst. (9)		P. & S.	370 Washington Ave., Newark, N. J.
Knapp, C., Asst. (9)		Barnard College	1773 Sedgwick Ave.

NAME	OFFICE HOURS AND OFFICES AT THE UNIVERSITY		ADDRESS
Knapp, H., Clin. Prof.(5)		P. & S.	26 W. 40
Kress, M. K., Curator & Lect. (11)	Daily ex. Sat., 2.30–5	M. 58	248 W. 42
		V. C.	
Lambert, W. E., Clin. Asst. (12)		P. & S.	498 W. 130
Larkin, J. H., Asst. (10)			
Laudy, L. H., Tutor (8)	Daily, 9–5	M. 12	
Leaming, E., Instr. (7)		P. & S.	
Lee, F. S., Adj. Prof. (4)		P. & S.	202 W. 81
Lefferts, G. M., Clin. Prof. (5)		P. & S.	6 W. 33
Lewis, R., Jr., Instr. (7)		P. & S.	14 E. 45
Lockwood, G. R., Instr. (7)		P. & S.	44 W. 49
Loiseaux, L. M. A., Tutor (8)	Th., 2.30	52, 11	639 Lex. Ave.
Low, Seth, President of the University.			
Luquer, L. McI., Tutor (8)	Daily ex. Sat., 2–4	P. H. 12	
		V. C.	
Lyle, W. G., Clin. Asst. (12)		P. & S.	28 W. 37
McBurney, C., Clin. Prof. (5)		P. & S.	22 East 56
McCosh, A. J., Clin. Lect. (5)			
McCrea, N. G., Instr. (7)	Th., 2.30	H. H.	533 Franklin Ave., B'klyn
		V. C.	
McEvoy, J. P., Clin. Asst. (13)		P. & S.	329 Amsterdam Ave.
McGinnis, E. H. L., Asst. (10)		V. C.	
McHale, F. S., Clin. Asst. (13)		M.	49 St. Nicholas Pl.
McIlhiney, P. C., Asst. (9)		P. & S.	51 W. 38
McLane, J. W., Prof. (1)		P. H. 9	303 W. 88
MacDowell, E. A., Prof. (4)	W., 12 ; Sat., 2		
Maclay, J., Instr. (7)	Absent on leave		
MacVannel, J. A., Asst. (10)	F., 2	H. H. 46	601 Lex. Ave.
Mallett, E. P., Clin. Asst. (13)		V. C.	
Mallett, G. H., Clin. Asst. (13)		V. C.	
Markoe, F. H., Clin. Lect. (5)		P. & S.	15 E. 49
Markoe, T. M., Emer. Prof. (13)			20 W. 30
Martin, W., Asst. Dem. (6)		P. & S.	354 W. 58
Mason, L., Clin. Asst. (13)		V. C.	
Mathews, J. A., Asst. (10)	Daily ex. M., 10–5	M.	4 First Pl., B'klyn
Matthews, B., Prof. (3)	W., 3.30	H. H. 35	121 E. 18
May, C. H., Instr. (7)		P. & S.	692 Mad. Ave.
Mayer, R. E., Instr. (6)	Daily ex. Sat., 10.30–12, 2.30–4.30	M. 73	145 E. 38
Mayo-Smith, R., Prof. (1)	M., Tu., F., 2.30–3.30	H. H. 44	305 W. 77
			149 W. 57
Metcalfe, J. T., Emer. Prof. (13)			
Miller, E. H., Tutor (8)	Tu., W., Th., 10–5	M.	118 W. 11
		V. C.	
Mills, J. M., Clin. Asst. (13)			
Moore, J. B., Prof. (3).	Daily ex. Sat., 9–5	54. 3	Flushing, N. Y.
Moses, A. J., Adj. Prof. (2)	Daily ex. Sat., 2.30–4.30	M. 35	Box 14, North Tarrytown, N. Y.
		P. & S.	
Müller, G., Lect. (11)			
Munroe, H. S., Prof. (1)	M., Tu., 11.30–12.30, Th., F., 12.30–1.30	M. 93	45 Sidney Pl., B'klyn
Nelson, C. A., Deputy Librarian, (xi)	Daily, 9.30–5	L.	19 Decatur St., B'klyn
Noble, H., Lect. (11)			120 Broadway
Norrie, V. H., Instr. (7)		P. & S.	21 W. 37
Noyes, W. B., Clin. Asst. (13)		V. C.	
Nye, W. B., Registrar,	Daily, 9–1, 2–6	H. H. 31	
Odell, G. C. D., Tutor (9)	Tu., W., Th., F., 9.30–10.30	H. H. 35	112 Mad. Ave.
			58 William St.
Ordronaux, J., Lect. (11)			
Osborn, H. F., Prof. (3)	M., Tu., 9–10	P. & S.	850 Mad. Ave.
Osgood, H. L., Prof. (2)	Tu., Th., 4.30–5	52. 4	
Otis, F. N., Emer. Prof. (13)			5 W. 50
Page, C. H. Tutor (9)	M., 11.30–12.30	52. 9	22 E. 47
Parker, C. T., Asst. (10)		P. & S.	46 E. 34
Parker, H. C., Tutor (8)	M., W., Th., 10–12	H. H. 55	21 Ft. Greene Pl., B'klyn
Peabody, G. L., Prof. (2)	Absent on leave		57 W. 38
Peck, H. T., Prof. (2)	W., 4.30	H. H. 24	New Rochelle, N. Y.
Peck, M. R., Clin. Asst. (13)		V. C.	

NAME	OFFICE HOURS AND OFFICES AT THE UNIVERSITY		ADDRESS
Peele, R., Adj. Prof. (3)	M., 1–2; W., F., 11.30–12.30		114th St., Morningside Pk.
Pellew, C. E., Dem. (5)		P. & S.	51 E. 54
Perkins, E. W., Clin. Asst. (13)		V. C.	
Perry, E. D., Prof. (3)	Tu., F., 11.30	H. H. 13	133 E. 55
Petersen, F., Chief Clin. (12)		V. C.	60 W. 50
Pfister, J. C., Tutor (8)	Tu., Th., F., 1.30–4 30	H. H. 27	240 6th Ave., Newark
Plummer, J. F., Jr., Asst. Sec. (xi)	Daily ex. Sat. 9–5; Sat., 9–12	P. H. 6	44 E. 35
Price, T. R., Prof. (1)	M., Tu., W., Th., 1.30	H. H. 42	263 W. 45
Proben, C. I., Clin. Asst. (13)		V. C.	
Provot, F. A. (10)			
Prudden, T. M., Prof. (3)		P. & S.	160 W. 59
Pupin, M. I., Adj. Prof. (3)	M., 11.30–12.30		7 Highland Pl., Yonkers, N. Y.
Quackenbos, J. D., Emer. Prof. (13)			331 W. 28
Ransom, C. C., Clin. Asst. (13)		V. C.	
Rees, J. K., Prof. (1)	M., Tu., Th., F., 10.30–11.30	H. H. 25	1 W. 72
Richards, G. A., Clin. Asst. (13)		V. C.	
Richards, H. M., Tutor (9)		Barnard College	128 E. 45
Ricketts, P. deP., Prof. (2)	Tu., W., Th., F., 3.30–5	M. 2.	115 E. 79
Ringwalt, R. C., Asst. (10)	M., W., F., 2.30–3.30	54.	143 W. 64
Ripley, W. Z., Prize Lect. (11)	Th., 3	H. H. 44	Institute of Technology, Boston
Robinson, J. H., Prof. (4)	M., Tu., 2.30–3	H. H. 44	170 W. 85
Rockwell, W. H., Jr., Asst. Dem. (6)		P. & S.	331 Amsterdam Ave.
Roe, J. G., Registrar (xi)	Daily	H H. 31	34 Lee Ave., B'klyn
Rogers, J. D., Asst. (10)			111 W. 49
Rood, O. N., Prof. (1)	M., W., 12.30	H. H. 59	
Seligman, E. R. A., Prof. (2)	Tu., Th., 3–3.30	H. H. 44	40 W. 71
Senftner, R., Registrar (xi)	Daily ex. Sat., 9–1, 2–6; Sat., 9–1	L. 12	108 W. 136
Sever, G. F., Instr. (6)		E.	115 W. 47
Shepherd, W. R., Prize Lect. (11)			325 Macon St., B'klyn
Sherman, F. D., Adj. Prof. (3)		M.	
Shrady, A. M., Clin. Asst. (13)		V. C.	
Shrady, J. E., Clin. Asst. (13)		V. C.	
Silver, L. M., Clin. Asst. (13)		V. C.	
Simpson, W. K., Clin. Asst. (13)		V. C.	
Sloane, W. M., Prof. (4)	Absent on leave		
Small, J. K., Curator (11)	Daily, 9–6	L. 21	608 Lex. Ave.
Smith, Munroe, Prof. (1)	Tu., F., 2.30–3	H. H. 44	115th St., Riverside Drive
Snelling, G. T., Instr. (6)	Tu., W., 11.30–12.30	P. H. 15	2 W. 36
Speranza, C. L., Adj. Prof. (4)	W., F., 3.30–4.30	52. 7	128 E. 63
Starr, M. A., Prof. (2)		P. & S.	22 W. 48
Stein, J. B., Clin. Asst. (13)		V. C.	
Stewart, C. W., Clin. Asst. (13)		V. C.	
Stiefel, B. W., Clin. Asst. (13)		V. C.	
Stone, W. S., Instr. (7)		P. & S.	260 W. 57
Strong, C. A., Lect. (11)	F., 11.30		Lakewood, N J.
Strong, O. S., Tutor (8)		P. & S.	121 W. 61
Struthers, J., Tutor (8)	Daily ex. Sat.	M. 37	624 E. 136
Sumner, A. E., Clin. Asst. (13)		V. C.	
Taylor, H. L., Clin. Asst. (13)		V. C.	
Taylor, R. W., Clin. Prof. (5)		P. & S.	40 W. 21
Terrell, A. G., Clin. Asst. (13)		V. C.	
Thacher, J. S., Dem. (5)		P. & S.	33 W. 39
Thomas, C., Prof. (4)	M., 3.30–4.30; Th., 11.30–12.30	54. 8	83 Highland Ave., Yonkers, N. Y.
Thomas, T. G., Emer. Prof. (13)			600 Madison Ave.
Tilton, B. T., Clin. Asst. (13)		V. C.	
Tison, A., Lect. (11)			308 W. 72
Todd, H. A., Prof. (3)	Tu., F., 4.30	52 8	720 West End Ave.

NAME	OFFICE HOURS AND OFFICES AT THE UNIVERSITY		ADDRESS
Trowbridge, C. C., Tutor (9)	M., Tu., W., F., 10–11	H. H. 55	7 E. 46
Tucker, E. A., Tutor (8)		P. & S.	57 W. 53
Tucker, S. A., Asst. Dem. (6)		P. & S.	135 Mad. Ave.
Tuttle, G. M., Prof. (2)		P. & S.	49 W. 38
Tyson, H. H., Clin. Asst. (13)		V. C.	
Underwood, L. M., Prof. (4)	Tu., W., 9.30–10–30	L. 21	White Plains, N. Y.
Van Amringe, J. H., Prof. (1)	M., W., 10	H. H. 31	67 W. 38
Van DeWater, G. R., Rev., Chaplain (xi)	Tu., Th., 9.30–12	54. 2	2067 Fifth Ave.
Van Gelder, A. P., Asst. (10)		P. & S.	331 W. 145
Van Gieson, I. T., Instr. (7)		P. & S.	
Van Ingen, G., Curator (11)	Daily ex. Sat., 10–12, 2–5	52.	244 E. 50
Vosburgh, A. S., Clin. Asst. (13)		V. C.	
Vulte, H. T., Tutor (8)	Daily ex. Sat., 1.30–2.30	M.	New Rochelle, N. Y.
Wade, H. T., Asst. (9)	Daily ex. Sat., 10.30–11.30	H. H. 55	149 E. 46
Ware, W. R., Prof. (1)	Daily ex. Sat., 12.30–1.30	M. 59	126 E. 28
Warren, C. P., Tutor (8)	W., F., 12.30–1.30	P. H. 15	58 W. 75
Warren, G. W., Organist (xi)	Daily ex. Sat., 9.30	Chapel	40 W. 59
Weir, R. F., Prof. (3)		P. & S.	37 W. 33
Wells, D. C., Asst. (10)		H. H. 55	
Wells, J. S. C., Instr. (6)		M.	Hackensack, N. J.
Wheeler, J. R., Prof. (4)	F., 10.30	54. 4	433 W. 117
White, T. G., Asst. (10)		H. H. 55	
Whitlock, H. P., Asst. (9)		M.	449 Park Ave.
Whitman, R., Instr. (7)		P. & S.	126 W. 59
Wiechmann, F. G., Instr. (6)		M.	671 West End Ave.
Wilde, N., Asst. (9)	F., 1.30	H. H. 46	80 Ludlow St., Yonkers, N. Y.
Williamson, E. L., Clin. Asst. (13)		V. C.	
Wilson, E. B., Prof. (3)	M., F., 11–1	P. & S.	305 W. 78
Woodberry, G. E , Prof. (3)	W., 1.30	H. H. 48	5 E. 17
Woodward, B. D., Instr. (7)	Th., 2.30	52. 10	462 W. 22
Woodward, R. S., Prof. (3)	M., Tu., 10–12; Th., F., 11–12	54.	Montclair, N. J.
Woolson, I. H., Instr. (6)	Daily, ex. Sat., 10–4	E.	
Yohannan, A., Rev., Lect. (11)	W. 2–3	54. 9	138 E. 48
Young, C. H., Instr. (6)	Tu., 12.30	H. H. 14	308 W. 58
Young, J. V. D., Clin. Asst. (13)		V. C.	

Columbia University in the City of New York

GENERAL STATEMENT

COLUMBIA COLLEGE IN THE CITY OF NEW YORK is the legal designation of the institution founded in 1754 as King's College by the grant of a royal charter from George II. The title of the corporation, originally the Governors of the College of the Province of New York, is now the Trustees of Columbia College in the City of New York.

On February 3, 1896, the Trustees adopted the following resolution: *Resolved*, That in all official publications hereafter issued by or under authority of the Trustees, all the departments of instruction and research maintained and managed by this corporation may, for convenience, be designated collectively as "Columbia University in the City of New York," or "the University," and the School of Arts, the same now known and described, may hereafter be designated as "Columbia College," or "the College."

Columbia University is governed primarily by twenty-four trustees whose term of office is for life and who form a self-perpetuating body. The title to all the property of Columbia University is vested in the Trustees, who also appoint the President and all officers of instruction and administration. The Trustees are the ultimate source of authority in all matters pertaining to the University.

The President has charge of the educational administration of the University, and is the chairman of the University Council and of every faculty established by the Trustees.

The University Council is a body consisting of the President, the dean and secretary of the College, *ex-officio*, and the dean and one elected member from each of the faculties of the University. The University Council, subject to the reserved power of control by the Trustees, has charge of the general educational interests of the University and of all matters affecting more than one faculty.

Columbia University, speaking pedagogically, is now both a college and a university. The college is known as Columbia College. It offers a course of four years' duration in the liberal arts and sciences, leading to the degree of bachelor of arts, which is conferred on the recommendation of the Faculty of the College.

The University consists of the following faculties: Law, Medicine, Philoso-

phy, Political Science, Pure Science, and Applied Science. These faculties have charge of all the graduate work, besides the professional instruction in law, medicine, and applied science. The faculties are administrative divisions of the teaching body made in accordance with the natural affiliations of the subjects taught. The schools under their charge form convenient groupings of students. Each school bears the name of its faculty, except that the school conducted by the medical faculty is known as the College of Physicians and Surgeons, and the Schools of Mines, Chemistry, Engineering, and Architecture are under the charge of the one Faculty of Applied Science.

These divisions into faculties and schools neither control nor limit the student in his freedom of selecting under one or several of the faculties courses that lead to the university degrees of master of arts and doctor of philosophy. The degree of master of laws is also a university degree, but for this degree the choice of the student is restricted to subjects under the two faculties of Law and Political Science. All of these degrees are granted on the recommendation of the University Council.

The professional degrees are bachelor of laws, doctor of medicine, bachelor of science, engineer of mines, civil engineer, metallurgical engineer, mechanical engineer, and electrical engineer. These are conferred on the recommendation of the Faculties of Law, Medicine, and Applied Science respectively.

The degrees of doctor of laws, doctor of sacred theology, and doctor of letters are conferred *honoris causa* by the Trustees at their discretion.

The library of the University contains more than 230,000 bound volumes, besides a very large number of pamphlets. More than 800 scientific and literary periodicals are regularly received by the University. The library is open fourteen hours a day for reference or for the withdrawal of books, without fee to students. About 20,000 volumes are accessible from the reading-room and may be freely consulted by readers without recourse to the Librarian.

The city of New York is full of opportunities that may be availed of by advanced students. In particular, by special arrangements, peculiar privileges have been obtained for students of Columbia University, free from additional charge, in the Union Theological Seminary, the Metropolitan Museum of Art, the American Museum of Natural History, and Teachers College.

The principal administrative officers, other than the President, are the deans of the several faculties, the Secretary of the University, the Librarian, and the Superintendent of Buildings and Grounds.

In the following pages will be found a statement of the method of entering the University, the cost of tuition, the endowments for the benefit of students, and the special privileges open to them in affiliated institutions.

The scope of instruction given in Columbia University is indicated broadly by the statements of the departments of instruction, in connection with each of which are stated in detail the courses offered for the current academic year, together with a brief summary of the equipment of the department for the work it undertakes to do.

Following these details will be found the requirements for the university degrees, the organization of the several schools, together with the requirements for the various degrees under the control of separate schools, degrees conferred at the last commencement, the list of fellows, scholars and honor men, publications of the University, and the calendar for the academic year.

Unless unexpectedly prevented, the University will open in October, 1897, upon the new site, 116th Street and Amsterdam Avenue, Morningside Heights.

METHOD OF ENTERING THE UNIVERSITY

Students entering the University for the first time must pay a matriculation fee of $5, and if an examination for entrance is required, such fee is payable before examination. All such students, after filling in the blank provided for the purpose by the dean of the proper faculty, and obtaining the signature of the dean thereto, are required to present the same to the Bursar with the proper fee. Students intending to pursue a partial course must secure from the dean of the proper faculty a certificate of the exact fee to be paid.

Every student holding a fellowship, scholarship, or receiving the benefit of free or reduced tuition, is required to file with the Secretary of the University a certificate to that effect, from the dean of the faculty with which he is registered.

No student is permitted to attend any academic exercise until he has complied with the regulations in regard to matriculation and registration.

Students entering the Medical School may pay their fees and register at the College of Physicians and Surgeons, 437 West 59th Street.

Certain courses of lectures are open to the public, men and women alike, on payment of an auditor's fee. No auditor will be admitted to any course without the consent of the instructor, previously obtained. Auditors' tickets must be procured from the Bursar of the University, and shown to the instructors in charge of the courses for which they are issued.

All communications for the President must be addressed to him at the University.

For catalogue, circulars, and detailed information, address the Secretary of the University, or the Registrar of the school concerned, Columbia University, except the Registrar of the College of Physicians and Surgeons, whose address is 437 West 59th Street.

The catalogue is published in December and is sold at twenty-five cents a copy.

The circulars of the various schools and departments are issued in the early spring and are distributed upon application.

FEES

The regulations in regard to fees are as follows:

For Matriculation	$ 5	Matriculation Fee.
For Tuition:		
For candidates for a degree.		
*In the College per annum	150	Tuition Fees.
In the School of Law "	150	
In the College of Physicians and Surgeons "	200	
In the Schools of Mines, Chemistry, Engineering, and Architecture "	200	
In the School of Political Science "	150	
In the School of Philosophy "	150	
In the School of Pure Science "	200	
For candidates for the degree of master of arts and doctor of philosophy "	150	
The maximum fee for the degrees of master of arts and doctor of philosophy shall be respectively $150 and $300.		
For students pursuing partial courses, at the rate of $15 per annum for each hour of attendance per week on lectures or recitations, with a maximum fee of	150	
For auditors, at the rate of $20 per annum for each hour of attendance per week on lectures or recitations, with a maximum fee of	200	
For Examinations:		
For examinations at unusual times	5	Examination Fees.
For the bachelor's degree (not professional or technical)	15	
For any professional or technical degree	25	
For the degree of master of arts	25	
For the degree of doctor of philosophy	35	
Special Fees:		
In the College of Physicians and Surgeons.		
Dissecting material, per "part"	1	
For special students:		Special Fees.
At the rate for each course of didactic lectures in Anatomy; Materia Medica and Therapeutics; Obstetrics and Gynecology; Physics and Chemistry; Physiology; the Practice of Medicine and Neurology; Surgery	20	
Dissection	10	
Practical Chemistry, including chemicals and breakage, per course	25	
Practical Toxicology, per course	15	
Laboratory course in Normal Histology, including materials	25	
Laboratory course in Pathology and Pathological Histology, including materials	25	

* Seniors taking the first year in the Medical School or the Schools of Applied Science pay the fee required in those schools, $200.

Laboratory fee for special instruction in Pathology or Histology or Bacteriology, per month $25

Operative Surgery on the cadaver, including material, per course 20

For other special courses the fees must be specially arrranged for with the instructors.

The clinical lectures at the Vanderbilt Clinic are free to matriculates who do not take the regular curriculum.

The public clinical lectures, and demonstrations of Pathological Anatomy, which are given at the hospitals by officers of the College, are free to all matriculates.

In the Schools of Mines, Chemistry, Engineering, and Architecture.

For graduate students:

For the use of the cabinets only 25

For the use of the drawing academy only 25

For the use of the laboratories or either of them 50

For candidates for admission to advanced standing who attend the Summer School in Surveying 35

The President and Treasurer are authorized to determine the fees to be paid in special cases, for partial attendance, upon the basis of the fees hereinbefore specified.

Payment of Fees.

The matriculation fee shall be paid before the entrance examination. Examination fees shall be paid in all cases before examination.

Annual tuition fees may be paid in equal installments at the beginning of each session of the academic year, except that in the case of students in the College of Physicians and Surgeons such fees shall be paid in full at the beginning of the academic year, and except that whenever the total amount of a student's tuition fees shall not exceed one hundred dollars, the full amount shall be paid at the beginning of the academic year or at entrance.

No candidate for a degree in any school shall be entitled to receive the same until he shall have discharged all his dues to the University.

Free and Reduced Tuition

Free or reduced tuition may be granted in the College and in the Schools of Law, Mines, Chemistry, Engineering, and Architecture, in special cases on the ground of character, ability, and need combined, but no reduced fee shall be less than fifty per cent. of the statutory charge, and the total number of students receiving free or reduced tuition under any faculty shall not exceed ten per cent. of the total number of students registered with such faculty. No free or reduced tuition shall be granted to any student during the first year of his connection with the University.

Fellows.

Fellows shall be exempt from the payment of all fees.

Free Students.

Free students and students granted a reduction of tuition fees shall not be exempt from the payment of fees for matriculation, for extra examination, and for examination for a degree.

Comparative Statement of Students' Expenses for the Academic Year, October to June

BASED ON STUDENTS' STATEMENTS.

	Low	Average	Liberal
Matriculation Fee (First Year)	$ 5	$ 5	$ 5
Tuition	150	150	150
Books	15	30	40 up
College Incidentals	—	15	50 "
Room (32 weeks)	80	128	224 "
Board (32 weeks)	80	128	256 "
Clothes and Washing	35	75	125 "
All other Expenses	15	25	50 "
Total	380	556	900 up

In the case of students in the Schools of Medicine, Applied Science, and Pure Science, $50 for tuition should be added, the fee in those schools being $200.

Committee on Aid for Students

The University Council has constituted a Standing Committee on Aid for Students, consisting at present of the following members :

Professor J. F. KEMP (School of Pure Science), Chairman.
" T. S. FISKE (College).
" G. S. HUNTINGTON (School of Medicine).
" F. M. BURDICK (School of Law).
" F. R. HUTTON (Schools of Applied Science).
" F. H. GIDDINGS (School of Political Science).
" H. A. TODD (School of Philosophy).

It is the design of the Committee to put students, desiring to work their way through college, especially those coming from elsewhere than New York or the immediate vicinity, in the way of earning enough for their partial or complete support, or if possible to extend assistance to them in other ways, while they are pursuing their studies here. It is believed that many opportunities may be offered to students of this class if the fact of their desire to obtain employment is made known. Some of the openings likely to be available are : private tutoring, translating, copying of various sorts, teaching in evening schools, traveling companions, stenography and typewriting. All communications should be addressed to the Committee.

All the heads of clinics in the Medical School have consented to give advice without charge to students who present cards of introduction from the Committee. Such visitors are received as a general rule during office hours at private offices. This insures to students who need it, the best medical advice in the city.

FELLOWSHIPS, SCHOLARSHIPS, AND OTHER PROVISION FOR THE ASSISTANCE OF STUDENTS

University Fellowships.

Twenty-four fellowships, known as "University Fellowships," each of the value of five hundred dollars a year, are awarded by the Council, to those applicants who give evidence of special fitness to pursue courses of higher study and original investigation, the competition to be open to graduates of all colleges and scientific schools. Vacancies occurring in any such fellowships shall be filled in the same manner in which original appointments are made.

Additional university fellows may be appointed in cases where the original appointee waives the emolument of the fellowship while accepting the honor of the appointment.

University Fellowship Regulations.

The application shall be made prior to March 1st, in writing, addressed to the President of Columbia University. Applications received later than March 1st may fail of consideration. The term of the fellowship is one year, dating from July 1st. Residence should begin October 1st.

The candidate must give evidence

(*a*) of a liberal education, such as a diploma already granted, or about to be received, from a college or scientific school of good repute;

(*b*) of decided fitness for a special line of study, such as an example of some scientific or literary work already performed;

(*c*) of upright character, such as a testimonial from some instructor.

The value of each fellowship is five hundred dollars. Payments will be based on the time during which the fellow shall have been in residence, and are made in quarterly installments, beginning November 30th. The holder of a fellowship is exempt from the charges for tuition.

Every holder of a fellowship will be expected to perform such duties as may be allotted to him in connection with his course of study, which course shall be such as to lead to the degree of doctor of philosophy. He will be expected to devote his time to the prosecution of special studies under the direction of the head of the department to which he belongs, and before the close of the academic year to give evidence of progress by the preparation of a thesis, the completion of a research, the delivery of a lecture, or by some other method. He must reside in New York or vicinity during the academic year.

No holder of a fellowship shall be permitted to pursue a professional or technical course of study during his term. With the written approval of the President, but not otherwise, he may give instruction or assistance in any department of the University.

A fellow may be reappointed at the end of a year for reasons of weight. No fellow may be reappointed for more than two terms of one year each.

As these fellowships are awarded as honors, those who are disposed, for the benefit of others or for any other reason, to waive the pecuniary emoluments, may do so, and still have their names retained on the list of fellows.

Tyndall Fellowship.

A fellowship known as the "John Tyndall Fellowship for the Encouragement of Research in Physics" is held by some suitable person, who is either a graduate of or a student in the University, but not necessarily a candidate for a degree. Such fellow shall be appointed by the Council upon a recommenda-

tion of the head of the department of Physics. Such appointment shall always be for the term of one year only, but the fellow, for the time being, shall be eligible for appointment from year to year, upon like recommendation. The fellow so appointed shall be entitled to receive during his term of office the net income of the capital sum constituting the endowment, to be paid in four quarterly installments on the usual quarter days, upon the certificate of the President; and the Trustees guarantee that such net income will amount to at least six hundred and forty-eight dollars a year, being six per cent. upon ten thousand eight hundred dollars, the fund presented to the University by Professor Tyndall.

Barnard Fellowship.

A fellowship known as the "Barnard Fellowship for Encouraging Scientific Research" is held by a graduate of the College or the Schools of Mines, Chemistry, Engineering, and Architecture, who has evinced decided aptness for physical investigation and who may be disposed to devote himself to such investigation for some years continuously. Such fellow shall be appointed by the Council upon the joint recommendation of the faculties of the College and Applied Science. Such appointment shall be for the term of one year only, but the fellow, for the time being, shall be eligible to reappointment from year to year upon like joint recommendation. The fellow so appointed shall be entitled to receive during his term of office the net income of the capital sum constituting the endowment, to be paid to him in four equal quarterly installments on the usual quarter days, upon the certificate of the President.

Duties of Tyndall and Barnard Fellows.

It shall be the duty of a Barnard or John Tyndall fellow to devote himself faithfully to the investigation of some subject in physical science at this university, or at some other in this country or abroad, under the supervision of some known physicist approved by the President and the head of the department of Physics. He shall make a report quarterly to the President, giving an account of the work in which he has been engaged during the three months preceding; which report shall be certified by the physicist superintending and directing him. In case of failure faithfully to fulfil the obligations imposed upon him, such fellow shall forfeit all privileges and emoluments conferred upon him by his appointment to the fellowship, and the Council may at any time declare the fellowship to be vacant.

Drisler Fellowship.

A fellowship known as the "Henry Drisler Fellowship in Classical Philology," of the annual value of five hundred dollars, was established in 1894 in commemoration of the semi-centennial in the service of the University of Henry Drisler, LL.D., of the class of 1839, who held in the University the chairs of both Latin and Greek.

Applicants for this fellowship must be bachelors of arts of this university, or some other college or university of equivalent standing, and must have pursued the study of Greek and Latin throughout their undergraduate course. They must present testimonials from their instructors in Greek and Latin as to their zeal and success in the study of these languages, and must give evidence of fitness for a wider and more profound study of the same, and for independent research. Such evidence may be shown by the results of a special examination, or by the production of an essay or published treatise in some department of classical study. Applicants must also have a sufficient knowledge of French

and German to use those languages readily in the prosecution of their studies, and must present a certificate of good moral character.

The appointment to the fellowship will be made by the University Council on the joint recommendation of the professors of Greek and Latin. The appointment shall be for one year, and the holder, for reasons of weight, may be reappointed ; but the fellowship shall not be held by the same person for more than three years.

The fellow must study at this university under the direction of the professors of Greek and Latin, unless permitted by the Council to spend a year in some foreign university or in the American School of Classical Studies at Athens.

Annual Fellows.

The Treasurer may receive gifts of money for fellowships to run for one year or more, provided that no fellowship shall be created for less than five hunded dollars per annum. Such fellowship shall be filled by the University Council, and shall be subject to such rules and regulations not inconsistent with the Statutes, as may be prescribed by the Council.

Class of '70 Fellowship.

There is a fellowship known as the " Class of '70 Fellowship," of the annual value of five hundred dollars, which, after the expiration of the term of the present incumbent, shall be filled by the Council, and shall be subject to such rules and regulations not inconsistent with the Statutes, as may be prescribed by the Council.

University Scholarships.

Thirty university scholarships are awarded annually to students in the Faculties of Political Science, Philosophy, and Pure Science. These scholarships are awarded under the following regulations, prepared by the authority of the University Council and with its approval :

1. The university scholarships are open to all graduates of colleges and scientific schools whose course of study has been such as to entitle them to be enrolled at Columbia as candidates for a university degree.

2. These scholarships are tenable for one academic year, with a possibility of renewal for one year longer. They are of an annual value of one hundred and fifty dollars each.

3. Payments will be made to university scholars in two equal installments ; one on October first and one on February first. University scholars will be required to pay all of the fees established for matriculation, tuition, and graduation.

4. Applications for university scholarships should be made in writing, on blanks that will be furnished for the purpose, and addressed to the President of Columbia University. Applications must be filed not later than May first. Should an unsuccessful applicant for a fellowship apply for a scholarship, the only information required from him will be that contained in the formal application for the fellowship.

5. The university scholarships will be awarded by the University Council at its regular meeting in May. The award will be made after applications have been examined and recommendations made by the Standing Committee on University Fellowships. In making these recommendations the committee will give preference to those candidates for university fellowships who have failed of appointment by the University Council after having been recommended for the same by any faculty or department.

6. University scholars will be required to enroll themselves as candidates for a degree and to pursue a regular course of study leading thereto.

President's University Scholarships.

In addition to the university scholarships, during the present academic year there are two scholarships; from and after July 1, 1897, there will be four scholarships; from and after July 1, 1898, six scholarships; and from and after July 1, 1899, eight scholarships, each of the annual value of one hundred and fifty dollars, which shall be known as the "President's University Scholarships." Such scholarships, which shall be for the term of one year, shall be filled by the University Council, and shall be governed in all respects by the regulations attached to the university scholarships established by the preceding section, and by such further regulations as may from time to time be hereafter adopted by the Trustees. The holders of such scholarships may be reappointed upon the expiration of their terms upon such conditions as may be prescribed in the regulations. In case any one of said scholarships is not awarded in any year, or in case any such scholarship shall become vacant otherwise than by the graduation of the incumbent, an additional scholar may be appointed to fill such vacancy. The recipient of any such scholarship may, with the consent of the President, assign the income thereof to any properly qualified candidate without waiving his right to be designated as a President's University Scholar.

Sons of the American Revolution Medal.

The National Society of the Sons of the American Revolution offers a silver medal under the following regulations:

1. Competition shall be open to members of the senior class in the College, and to first-year students, not graduates of the College, studying under any of the faculties of the University.

2. Each essay must contain not less than 1600 and not more than 2000 words and shall be upon the subject: The Principles fought for in the War of the Revolution.

3. A typewritten copy of each essay must be presented to the President not later than May 1st.

4. The Committee of Award shall consist of the professors giving instruction in American History.

5. The prize shall in no case be awarded to an essay defective in English composition.

The award if made will be announced by the President at commencement.

A similar tender has been made to the principal colleges of the country, and the essays receiving the silver medals will be submitted to a Committee of the National Society in competition for a gold medal to be awarded to the writer of the essay deemed most meritorious.

Bunner Medal.

The H. C. Bunner Gold Medal, provided for by the interest upon a fund of one thousand dollars, established in November, 1896, by the friends of the late Henry Cuyler Bunner, is awarded annually at commencement to the candidate for a Columbia degree who shall present the best essay on an assigned subject in American Literature. Essays must be submitted to the President on or before May 1st. The award will be made by a committee from the Division of English and Literature, to be appointed by the President. The subject for the essay to be handed in May 1, 1897, is "American Satiric Poetry"; for 1898, "The Literary Influences which Affected both Hawthorne and Poe"; for 1899, "Daniel Webster as an Orator."

Columbia College

Alumni Scholarships. The Alumni Association of Columbia College is entitled to have always, in the College, four students to be instructed free of charge.

Religion and Learning Scholarships. The Society for Promoting Religion and Learning in the State of New York is entitled to have always, in the College, two students in each class, to be instructed free of charge.

Faculty Scholarships. The members of the several faculties are entitled to have their sons educated in the College free of charge.

Alumni Competitive Scholarships. There is offered annually, as a prize to the student passing the best entrance examination in the College, a free scholarship for the course of four years. Such scholarship is known as the "Alumni Competitive Scholarship," and the faculty have power to fix the conditions under which such scholarship is awarded.

Moffat Scholarships. The personal representatives of the late William B. Moffat, M.D., and their assigns are entitled to nominate and have always two students in the College to be instructed free of charge; such scholarships are known as the "Moffat Scholarships."

Schermerhorn Scholarships. The nearest living male relative of the late John Jones Schermerhorn is entitled to nominate and have always five students in the College to be instructed free of charge; such scholarships are known as the "Schermerhorn Scholarships."

Theological Seminary Scholarships. The scholarship in the General Theological Seminary of the Protestant Episcopal Church (heretofore placed at the disposal of the Trustees of Columbia University by the Society for Promoting Religion and Learning in the State of New York) is awarded upon the following conditions, to wit:

a. All candidates shall comply with the requirements for admission of the General Theological Seminary, and as candidates for the ministry of the Protestant Episcopal Church, and must have taken the degree of Bachelor of Arts and have been graduated with honors.

b. All candidates shall report themselves to the Education Committee of such Society at least three months previous to the examination to be held by the faculty for the purpose of awarding such scholarship.

Brooklyn Scholarships. Twelve scholarships, founded by the Trustees in 1895 in recognition of the gift to the University by President Low of a memorial building for the university library, are open for competition to candidates for admission to the College who are residents of Brooklyn, N. Y., and have received their training in either the public or the private schools of that city. Three of these scholarships will be awarded annually, beginning with the year 1896, to the three qualified competitors who are examined at the College in June and pass complete entrance examinations in all subjects. The papers of the competitors who pass without conditions will be examined by the Committee of the Faculty on Entrance Examinations; and the three students whose papers as a whole are entitled to the highest rank will receive the scholarships.

Each scholarship entitles its holder to receive the sum of $150 per annum during the college course; but if he fail to maintain a standing of at least grade C in all of the courses pursued by him, or if he commit any breach of good order, he shall forfeit the scholarship.

Should any recipient desire, he may, with the consent of the faculty, while still retaining the title "Brooklyn Scholar," transfer to any other properly qualified candidate from Brooklyn the income from the scholarship; and such action on his part will not be made a matter of public record.

All persons intending to compete for these scholarships must submit satisfactory certificates of character and proficiency from the schools which they have last attended, and must state in writing that it is their intention to spend at least one year at Columbia College.

Stuart Scholarships.

There are two scholarships in the College known as the "Stuart Scholarships," in memory of Sidney Barculo Stuart, Class of '80, Columbia College, and Eugene Talman Stuart, Class of '81, Columbia College; founded by their grandmother, Cornelia A. Atwill, October, 1895; and the said Cornelia A. Atwill shall have the privilege of nominating the students for such scholarships during her lifetime, and after her decease such nominations shall be made by the President of the University and the Dean of the College on such terms and conditions as they may from time to time impose.

Prize of the Alumni Association.

A prize of fifty dollars in money or its equivalent, at the option of the receiver, established by the Association of the Alumni of Columbia College, was first awarded at the commencement in June, 1858.

It is to be given "to the most faithful and deserving student of the graduating class."

Three names are selected by the faculty and submitted to the class, who from these three designate one to receive the prize. Should the class at any time fail to make the selection, and give notice thereof to the President of the University at least ten days prior to the day appointed for commencement, the selection of the student to receive the prize may be made by the faculty.

McVickar Prizes.

Two Annual Seminary Prizes were founded in November, 1851, by the Rev. Dr. John McVicar, through the Society for Promoting Religion and Learning, and for which an endowment of $1000 is provided on the following conditions:

1. The first, to be entitled "The Society's Greek Seminary Prize of Thirty Dollars," to be annually competed for among such members of the graduating class as shall have given in their names to the President, at least one month previous to such competition, as candidates for the General Theological Seminary of the Protestant Episcopal Church, each student giving in his name as competitor to designate the prize for which he contends, and to be confined to the choice then made. The examination for such prize to be held publicly in the chapel, and separate from the general examination. To be on:

a. The Epistles of the New Testament (in Greek) "ad aperturam libri."

b. On some one of the early Greek Fathers, to be designated at the time of noticing the prize, or, if none be designated, then upon some portion of Chrysostom or Athanasius, at the choice of the student.

The decision to be with the President and the professor of Greek.

2. The second, to be entitled "The Society's English Seminary Prize of Twenty Dollars," to be annually competed for as before, and to consist in the production of an essay (to be publicly read or not, as the President may determine), of the ordinary length of a pulpit discourse, on some subject con-

nected with the course of evidences on which the class has been engaged; such subject to be selected by the professor of the evidences, and given out by him at the time of notice; and the prize to be adjudged as before, by the President and the professor of that branch; such decision to have respect to—

a. The general ability and soundness of the essay;

b. Its logical and demonstrative form; and

c. The pure Saxon style and idiom in which it is written.

The names of the successful candidates to be enrolled in a suitable book to be provided for that purpose, lettered appropriately, and kept on the library table; to be announced with other honors on commencement day, and also recorded honorably in the Society's books.

Chanler Historical Prize.

In 1887, Mr. J. Winthrop Chanler, an alumnus of the College of the Class of 1847, bequeathed "to the Trustees of Columbia College in the City of New York the sum of one thousand dollars, to be invested and kept invested, and the income thereof to be given annually, on commencement day, to the undergraduate member of the senior class of said College who shall be the author of the best original manuscript essay in English prose on the history of civil government of America, or some other historical subject, the same to be determined by the judgment and decision of the faculty of said College." The bequest became available in 1879.

The subject for the prize will be announced on or before November 1st of each year, and the competitive essays must be handed to the President on or before May 1st of the year following.

School of Law

Prizes

Three prizes of two hundred and fifty dollars, one hundred and fifty, and one hundred dollars, respectively, are awarded to members of the graduating class, at the close of each academic year, for the best essays upon one or more legal topics. The competition for such prizes is open only to students who have pursued the whole course of study required for the degree of bachelor of laws, and who shall be certified by the faculty to have been diligent in attendance and to have maintained a high degree of scholarship throughout.

College of Physicians and Surgeons

Fellowships of the Alumni Association.

In June, 1891, the Trustees, at the request of the Alumni Association of the College of Physicians and Surgeons, established three fellowships to be known as the Fellowships of the Alumni Association of the College of Physicians and Surgeons, the provision for which is made annually by the Association.

These fellowships are open to graduates of the College of Physicians and Surgeons who have shown special aptitude for scientific research in the departments of Anatomy, Physiology, or Pathology. They are held for a period of two years and have an annual value of five hundred dollars each. The appointments to these fellowships are made by the Executive Committee of the Alumni Association from candidates presented to them by the professor of Anatomy, the professor of Physiology, and the professor of Pathology.

The persons appointed to these fellowships are expected to devote themselves to scientific research in the department which they may elect, in this country, either in the schools of Columbia University, where they enjoy free tuition and the privileges of the laboratories, or in other institutions at their own expense. At the end of two years the holders of these fellowships are expected to present to the Association a thesis containing evidence of independent or original work in their special department.

Alonzo Clark Scholarship.

By the will of the late Alonzo Clark, M.D., LL.D., for many years president of the College of Physicians and Surgeons, and Professor of Pathology and Practical Medicine, it has been placed in the power of the Medical Faculty to bestow a scholarship, with an income of about seven hundred dollars a year, for the purpose of promoting the discovery of new facts in medical science.

Harsen Prizes for Clinical Reports.

Three annual prizes, founded in 1859, by the late Jacob Harsen, M.D., a graduate of the College of Physicians and Surgeons, are offered for the three best reports, in writing, by students of the Medical Department, of the clinical instruction given at the New York Hospital during any four consecutive months of the year which ends on commencement day.

These reports must embrace the clinical teaching of both the visiting physician and the visiting surgeon on duty.

The prizes are as follows:

A first prize of one hundred and fifty dollars; a second prize of seventy-five dollars; a third prize of twenty-five dollars.

A "Harsen Prize Medal" and a diploma are given with each prize.

Harsen Prizes for Proficiency at Examination.

In consequence of the great increase in value of the Harsen Prize Fund, in addition to the three prizes above mentioned, there are awarded three Harsen prizes for proficiency at examination, viz.:

A first prize of five hundred dollars; a second prize of three hundred dollars; a third prize of two hundred dollars.

The award of these prizes is made as follows:

The ten members of each graduating class who, at their examination for the degree of doctor of medicine, have shown the highest proficiency in all the branches combined, receive each a diploma of "Examination Honors," and are entitled to take part in special competitive examinations, the three most meritorious competitors at which receive the first, second, and third prizes, respectively.

The competitive examinations consist:

1. Of an examination in writing, covering *all the branches* of medical teaching.

2. Of an examination upon the cadaver in *practical anatomy*, conducted by the professor of Anatomy.

3. Of practical examinations in *clinical medicine* and *clinical surgery*, conducted at the hospitals by the professors of Medicine and Surgery, respectively.

The relative merits of the competitors are decided, and the award of the prizes made, by a committee of three judges, consisting of the Dean of the College of Physicians and Surgeons, the President of the Association of the Alumni of the same, and a resident alumnus selected by them.

Alumni Association Prize.

The Alumni Association Prize is a biennial prize of five hundred dollars open for competition to the alumni of the College of Physicians and Surgeons. It is awarded for the best medical essay submitted upon any subject the writer may select, and is open to competition in alternate years with the Cartwright Prize.

If no one of the competing essays be deemed sufficiently meritorious, the prize is not awarded.

An essay in order to be held worthy of the prize must contain the result of original investigation made by the writer.

This prize is not awarded to any essay which is the work of more than one author, or which is at the same time submitted for another prize. Each competitor is required to send with his essay to the Prize Committee a statement that these requirements have been complied with.

Essays in competition for the prize to be awarded at commencement, 1898, must be sent to the Secretary of the Alumni Association of the College of Physicians and Surgeons on or before April 1, 1898.

Competing essays must each be marked with a device or motto, and accompanied by a sealed envelope, similarly marked, containing the name and address of the author.

Cartwright Prize of the Alumni Association.

The Cartwright Prize consists of five hundred dollars, and is offered for competition in alternate years with the Alumni Association prize.

It is awarded on the same terms as the latter, *except that it is open to universal competition.* Essays in competition for the prize to be awarded at commencement, 1897, must be sent to the secretary of the Alumni Association on or before April 1, 1897.

Stevens Triennial Prize.

The Stevens Triennial Prize was established by the late Alexander Hodgdon Stevens, M.D., formerly president of the Medical School, on the following plan:

The prize, awarded triennially, consists of the interest yielded by the principal fund during three years, and amounts to *two hundred dollars.*

The administration of the prize is entrusted to a commission, consisting of the dean of the medical faculty (*ex-officio*), the president of the Alumni Association of the College of Physicians and Surgeons (*ex-officio*), and the professor of Physiology (*ex-officio*) in the same institution.

The prize is awarded to no essay unless it is sufficiently meritorious and includes the results of original research by the writer upon the subject chosen.

In 1897 this prize will be given to the *best medical essay* submitted, upon any subject the writer may select.

The competing essays must be sent in to the Dean of the College of Physicians and Surgeons, New York, on or before the first day of January, 1897. Each essay must be designated by a device or motto, and must be accompanied by a sealed envelope, bearing the same device or motto, and containing the name and address of the author. The envelope belonging to the successful essay will be opened, and the name of the author announced, at the annual commencement of the University in 1897; at which time, also, the subjects for the next triennial prize (1900) will be announced.

The prize is open for universal competition.

Joseph Mather Smith Prize.

The fund for the Joseph Mather Smith Prize was given by the relatives, friends, and pupils of the late Dr. Smith, as a memorial of his services as professor in the College of Physicians and Surgeons from 1826 to 1866. Under the provisions of the trust, an annual prize of *one hundred dollars* is awarded for the best essay (if sufficiently meritorious) on the subject of the year, presented by an alumnus of the College of Physicians and Surgeons. The prize committee, consisting of the dean of the medical faculty, the professor of the Practice of Medicine, and the president of the Alumni Association of the College of Physicians and Surgeons, designate each year the subject for the following year. The competing essays should be sent to the dean of the medical faculty on or before March 10th, each essay signed with a device or motto, and accompanied by a sealed envelope, inscribed with the same device or motto, and containing the name of the author. The envelope of the successful essayist will be opened, and the prize awarded at the annual commencement next following.

School of Architecture

Columbia Fellowship.

A fellowship known as the "Columbia Fellowship in Architecture," which shall be open to all graduates of the department of Architecture less than thirty years of age, is awarded under such rules and regulations as shall from time to time be determined by the President and the professor of Architecture. Holders of such fellowship shall devote the income thereof to foreign study and travel in accordance with plans prepared by themselves and approved by the President and such professors, and shall upon return present a written report and exhibit drawings in the department of Architecture. Said fellowship shall be awarded in the spring of every even-numbered year, and payments thereof shall be made by the Treasurer, on the certificate of the professsor of Architecture, endorsed by the President, in four equal installments of three hundred and twenty-five dollars each on the usual quarter days.

McKim Fellowships.

Two fellowships, known as the "McKim Fellowships in Architecture," are awarded upon like conditions and for like purposes as are specified in the foregoing section, but such fellowships shall be awarded in the spring of every uneven-numbered year, and payments thereof shall be made by the Treasurer, on the certificate of the professor of Architecture, endorsed by the President, in four equal installments of two hundred and fifty dollars each on the usual quarter days.

School of Political Science

Prize in Political Economy.

An annual prize of one hundred and fifty dollars for the best essay on some subject in political economy has been established by Mr. Edwin R. A. Seligman, of the class of 1879. Competition for the prize is open to all members of the School of Political Science. The topic selected must be approved by the faculty, and the essay itself must not be less than twenty thousand words in length.

Bennett Prize.

A prize of forty dollars, to be given on commencement day, has been established by Mr. James Gordon Bennett. The prize is awarded by the Faculty of Political Science for the best essay in English prose upon some subject of contemporaneous interest in the domestic or foreign policy of the United States. The subject is assigned each year by the faculty. The competition is open

to seniors in the College, whether regular or special students, and to all students under any of the faculties of the University, who have not yet taken the baccalaureate degree in arts, letters, or philosophy, provided that they take courses amounting to six hours a week throughout the year in the School of Political Science. Essays must be submitted to the President on or before May 1. If no satisfactory essay is received no award will be made. No award will be made for any essay that is defective in English composition.

Toppan Prize.

A prize known as the Robert N. Toppan prize, of one hundred and fifty dollars, is awarded annually to the member of the School who shall pass the best written examination upon a paper prepared by the professor in charge of the department of Constitutional Law, so long as the said Robert N. Toppan shall continue to maintain the same.

Prize Lectureships.

The Trustees have established in the School of Political Science three prize lectureships of the annual value of five hundred dollars each, tenable for three years. The power of appointment is vested in the faculty. One of these three lectureships becomes vacant at the close of each academic year. The previous holder may be reappointed. The conditions of competition are as follows:

1 The candidate must be a graduate of Columbia University in the School of Political Science or the School of Law. In the latter case he must have pursued the curriculum of the School of Political Science for at least two years.

2 He must be an active member of the Academy of Political Science.

3 He must have read at least one paper before the Academy of Political Science during the year next preceding the appointment.

The duty of the lecturer is to deliver annually, before the students of political science, a series of at least twenty lectures, the result of original investigation.

FELLOWSHIP REGULATIONS

No fellow shall be allowed to accept remunerative employment except by permisson of the President, and the acceptance of any such employment, without such permission, shall operate to vacate the fellowship.

All fellows, except as hereinbefore provided, shall be required to pursue their studies during the term of their fellowship at the University, unless permission be granted by the President to study elsewhere.

All fellows shall be governed by such rules and regulations, not inconsistent with the statutes, as may be prescribed by the Council.

BARNARD MEDAL

A gold medal, known as the "Barnard Medal for Meritorious Service to Science," is awarded at commencement at the close of every quinquennial period dating from the 17th day of July, 1889, to such person, if any, whether a citizen of the United States or of any other country, as shall within the five years next preceding have made such discovery in physical or astronomical science, or such novel application of science to purposes beneficial to the human race, as in the judgment of the National Academy of Sciences of the United States shall be esteemed most worthy of such honor.

Award of 1895

Lord Rayleigh, F.R.S. Professor William Ramsay, F.R.S.

LOUBAT PRIZE

Mr. Joseph F. Loubat has established, at Columbia University, two prizes, a first prize of one thousand dollars, and a second of four hundred dollars, for the best works published in the English language upon the history, geography, archæology, ethnology, philology, or numismatics of North America. The competition for these prizes is open, under the deed of gift, to all persons, whether connected with Columbia University or not, and whether citizens of the United States or of any other country. No works will be considered save such as rest upon original research and constitute a distinct contribution to science. In order to insure consideration of their works, authors are invited to send copies to the President of Columbia University, not later than June 1 of the year in which the prize is to be awarded ; but the competition will not be restricted to works thus submitted. Copies of the regulations adopted by the Trustees can be obtained from the Secretary of the University.

Mr. Loubat has provided a permanent endowment for these prizes, which will make it possible to award them at least every five years. Beginning with the competition of 1898, it has been decided to divide the above list of subjects into two groups, in which the award will be made alternately. These groups will consist, respectively, of history, geography, and numismatics ; and of archæology, ethnology, and philology. It has also been decided that, hereafter, Mr. Loubat's foundation shall be employed to stimulate research and not simply to reward the authors of meritorious works published without reference to these prizes. That is, the University will call for the investigation of certain questions and the publication of the results, and the best works produced in answer to this call, if of sufficient value, will receive the prizes. The awards to be made in 1898 shall be conferred for works relative to subjects of the second group. One or more special topics of investigation may be recommended, and the awards limited primarily to works upon such topic or topics. But if no works upon the topics suggested seem worthy of an award, the prizes will be adjudged to the best works falling within the general group of subjects designated for the period.

It is hoped that Mr. Loubat's generous foundation may serve to encourage American reseafch in a field that is peculiarly our own, but in which much of the best work has hitherto been done by strangers.

Award of 1893

First Prize, HENRY ADAMS, for his " History of the United States of America during the Administrations of Jefferson and Madison," 9 vols.—1889–90.

Second Prize, A. F. BANDELIER, for his " Report of Investigations among the Indians of the Southwestern States." 2 vols., 1890–92.

GRANT SQUIRES PRIZE

A prize known as the " Grant Squires Prize," consisting of the income to be derived from the fund heretofore established by Mr. Grant Squires, of the class of 1885, is awarded at commencement at the close of every quinquennial period, dating from the first day of July, 1895, to such graduate, conducting an original

investigation of a sociological character as shall be adjudged most worthy by a Committee of Award, consisting of the President, the professor of Sociology, and one of the professors of Political Economy, appointed by the Faculty of Political Science. Such award shall be deemed to be a recognition of scientific ability and achievement, as well as an encouragement of research.

PRIVILEGES OPEN TO COLUMBIA STUDENTS IN OTHER INSTITUTIONS

American Museum of Natural History.

The American Museum of Natural History places its collection at the service of advanced students of Columbia University for the purposes of study and research and provides them with the necessary facilities for work.

Metropolitan Museum of Art.

The Metropolitan Museum of Art admits students of Columbia University to the Museum on presentation of their matriculation cards, and gives them permission to draw, sketch, or copy objects in the Museum ; the curator of the department in which the student desires to work furnishing him with cards for the work.

Objects may be removed temporarily from exhibition for the purpose of special study, and students are allowed to study these objects in rooms specified for the purpose.

Union Theological Seminary.

The Union Theological Seminary admits, without fee, such students of high standing in the senior year of Columbia College and graduate department of the University, as may be recommended by the President, to such lectures in the regular courses of the Seminary as may be agreed upon by the Faculty of the Seminary and the President of Columbia University, and also any students of high standing in the graduate department of Columbia University recommended by the President, to any optional or special classes, subject to the approval of the faculty of the Seminary.

The privileges of the library of the Seminary, for reference, are open to all students of Columbia University on recommendation of the President. Reciprocal advantages are offered by Columbia to students of the Seminary.

Teachers College.

The courses of instruction and the library of Teachers College, subject to the regulations of the institution, are open, without fee, to all matriculated students of Columbia University.

Botanical Garden.

Columbia University has the right to conduct university courses in botany at the New York Botanical Garden and to use the laboratories and floral material of the same, and all courses of instruction given there are open to the officers and students of the University without charge.

BARNARD COLLEGE

Barnard College, incorporated in 1889 by the Regents of the University of the State of New York, is a college for women, in close affiliation with Columbia University. It is an independent corporation. At Barnard College the curriculum is the same as at Columbia College, and Columbia makes itself responsible for its students by conducting all the examinations. These are identical, so far as possible with those of Columbia. The instruction at Bar-

nard is given for the most part by Columbia instructors, and, when this is impossible, by persons appointed with the approval of the President of Columbia University. Degrees are given to the graduates of Barnard College by Columbia University. Through Barnard College, women, properly qualified, can obtain the Columbia degrees of bachelor of arts, master of arts, and doctor of philosophy. In the three lower years of the course the instruction is entirely separate. In the senior and graduate years certain courses at Columbia are open to the students of Barnard.

For all information concerning Barnard College, address the Registrar of Barnard College, 343 Madison Avenue.

PUBLIC WORSHIP

Prayers are read in the University Chapel every week-day morning, except Saturday, at 9.10 o'clock, with the reading of the scriptures and singing, and an address by the Chaplain, and all the officers and students of the University are invited to be present.

THE LIBRARY

The library occupies the entire library building with the exception of the rooms devoted to the law school and the herbarium. It is open daily from 8.30 A.M., until 11 P.M., during term time, and until 10 P.M. in vacations. All officers, students, and graduates of all departments of the University have free access to the library and may draw books for home use. Undergraduates and alumni may draw books not exceeding three volumes in number for a period not exceeding two weeks, but may, if necessary, renew their loans.

Persons not connected with the University, who have occasion to use a library for purposes of study, and who are introduced to the Librarian as responsible, are welcome to use the library in the building.

The reading-rooms contain table space for two hundred and fifty readers, and are lighted by electric light. The west end of the main reading-room is devoted to the law students, and is surrounded by an ample collection of standard text-books, digests, statutes, and reports.

A large body of dictionaries, cyclopædias, and other reference books are placed in the general reading-room for common use. Students are allowed free access to a considerable part of the books in the library.

The library is carefully and accurately catalogued both by authors and subjects. The catalogue is on cards accessible to the public. Competent reference librarians are on duty at all hours during which the library is open, to render any needed assistance to readers.

The library contains about 230,000 volumes, exclusive of pamphlets and duplicates. Besides these, the library of the New York Academy of Sciences, consisting of about 8000 volumes made up largely of the transactions of learned societies, is deposited here and accessible to all readers.

The additions to the library for the past four years have averaged over 18,000 volumes annually. The library is well represented in all the subjects taught in the various courses of the University.

It is the object of the library to furnish for students and investigators standard works in all sciences, and also, as far as may be needed, the material for original research.

The library contains a number of interesting and notable special collections. Among these may be mentioned the Phœnix Library, the gift of Stephen Whitney Phœnix of the class of 1859, consisting of 7000 volumes ; the Avery Architectural Library, with 13,500 volumes devoted to architecture and the building and industrial arts ; the Mary Queen of Scots Library, collected and given by General J. Watts de Peyster, containing 400 volumes ; and the collection of books by and about Goethe, containing 1100 volumes.

DEPARTMENTS OF INSTRUCTION

When an announced course has not been applied for by at least three students, candidates for a degree, the instructor shall be at liberty to withdraw the course.

The number of hours, unless otherwise specified, indicates the number of hours a week for the entire year.

Anatomy

GEORGE SUMNER HUNTINGTON, M.D.....*Professor*
BERN BUDD GALLAUDET, M.D.....*Demonstrator*
WILLIAM H. ROCKWELL, M.D.....*Assistant Demonstrator*
LUCIUS WALES HOTCHKISS, M.D.....*Assistant Demonstrator*
GEORGE EMERSON BREWER, M.D.....*Assistant Demonstrator*
FREDERICK JOHN BROCKWAY, M.D.....*Assistant Demonstrator and Alumni Association Fellow in Anatomy*
JOSEPH A. BLAKE, M.D.....*Assistant Demonstrator*
DOUGLAS EWELL, M.D.....*Assistant Demonstrator*
HOWARD D. COLLINS, M.D.....*Assistant Demonstrator*
WALTON MARTIN, M.D.....*Assistant Demonstrator*
C. C. CARMALT, M.D.....*Assistant Demonstrator*

Courses

I—GENERAL INTRODUCTION TO VERTEBRATE MORPHOLOGY—Anatomy of the body cavities—Visceral and topographical course—Thorax and abdomen—Cranial and cerebral topography. Lectures combined with demonstrations 3 hours. Prof. HUNTINGTON

Required, in the second year, of candidates for the degree of M.D.

II—DEMONSTRATIONS TO SECTIONS OF THE CLASS—Cranial osteology and syndesmology, myology, angeiology, and peripheral nervous system of the head and neck. 1 hour. Dr. BLAKE

Required, in the first year, of candidates for the degree of M.D. Elective, in conjunction with III, IV, and V, for seniors in Columbia College.

III—DEMONSTRATIONS TO SECTIONS OF THE CLASS—Osteology, syndesmology, myology, peripheral nervous system, and angeiology of the extremities. 2 hours. Dr. BROCKWAY

Required, in the first year, of candidates for the degree of M.D. Elective for seniors in Columbia College in conjunction with II, IV, and V.

These courses are so arranged as to maintain, with reference to the subjects treated, a direct connection with the laboratory course in dissection No. V.

IV—Demonstration to Sections of the Class

(B) Preliminary visceral course—Anatomy of the viscera and body cavities. 1 hour.

This portion of the course is designed to afford that general instruction in the descriptive anatomy and the relations of the viscera which is indispensable for the understanding of the courses in the normal histology and physiology of the viscera. Dr. Brewer

Required, in the first year, of candidates for the degree of M.D. Elective for seniors in Columbia College in conjunction with II, III, and V.

V—Laboratory Course—Dissection of the human body. 18 to 20 hours a week, at various hours, for from 3 to 5 periods of 4 weeks each. Professor Huntington, Dr. Gallaudet, and the Assistant Demonstrators of Anatomy

Required, in the first year, of candidates for the degree of M.D. Elective for seniors in Columbia College in conjunction with II, III, and IV.

VI—Laboratory Course—Dissection of the human body. 10 to 12 hours a week for from 6 to 11 weeks. Professor Huntington, Dr. Gallaudet, and the Assistant Demonstrators of Anatomy

Required, in the second year, of candidates for the degree of M.D.

VII—Demonstrations to Sections of the Class—Anatomy of the mouth, pharynx, and larynx—The auditory apparatus—The central nervous system. 3 hours. Dr. Gallaudet

Required, in the second year, of candidates for the degree of M.D.

VIII—Demonstrations to Sections of the Class—Visceral anatomy—Cranial Nerves—This course preserves an organic connection with Course I, and presents for direct examination and demonstration the preparations serving to illustrate that course. 1 hour, one term. 2 hours, one term. Dr. Martin

Required, in the second year, of candidates for the degree of M.D.

IX—Laboratory Courses in Animal Morphology—No specified number of hours a week. Professor Huntington

Optional for qualified candidates for the degree of M.D. Open as major or minor courses to candidates for the degree of A.M. or of Ph.D.

Research

X—The Laboratory of Animal Morphology is open to research, under the direction of the professor, to advanced workers. Professor Huntington

Fellowships

For the Fellowships, open to persons desiring to do special work under the Professor of Anatomy, see page 32.

Equipment

The erection of a plant for the production of artificial cold by the anhydrous ammonia process has enabled the department, through the means offered for

the indefinite preservation of fresh subjects by the cold-storage system, greatly to increase the amount of material available for laboratory work ; and has also rendered it possible so to regulate the temperature of the general laboratory that the work can be carried on without difficulty during the warmer months at the beginning and close of the academic year.

The laboratory for advanced morphological research, equipped with apparatus, and provided with steam power and plant, electricity, and ammonia-freezing and corrosion plants, occupies the third story of the new Anatomical building. Every facility for advanced and research work in morphology is here extended. The established connections of the department furnish abundant human and comparative material, both mature and embryonal. The private library of the professor of Anatomy is at the disposal of advanced workers.

Much work has been done in the formation of a museum of Human and Comparative Anatomy, the ultimate design of which is to present, in as complete a manner as possible, a view of the evolution of the forms of animal life, and of their natural relations, both in series of natural groups, and in the comparative and relative position of organs and systems. Even the approximate attainment of this aim will require much time and work. For the present, the energies of the department are directed toward placing in position the very abundant vertebrate material already on hand, and the collection of models and casts pertaining chiefly to human anatomy. The collection, both as regards groups and the individual preparations, is designed for the illustration of both elementary and advanced courses, and is largely used in the instruction of the medical undergraduates and in advanced study and research. The new Anatomical building will provide the opportunity for the further development of this invaluable portion of the department equipment. The first and second stories of the new building will be devoted to the Morphological museum, and it is hoped that in the space thus provided the continued development of scientific anatomy, both for purposes of undergraduate instruction and of advanced research, will steadily proceed.

In addition to the museum collection proper the department is constantly adding to a large collection for advanced study and research.

A study-collection of human osteological preparations is so administered as to enable every student to take out the different osteological series and retain them for private study as long as required.

Anthropology

LIVINGSTON FARRAND, A.M., M.D. ..... *Instructor*
FRANZ BOAS, Ph.D. ..... *Lecturer*
WILLIAM Z. RIPLEY, Ph.D. ..... *Prize Lecturer*

General Statement

Of the courses in this department, I and III are elementary in character and intended as general introductions to Ethnology and Anthropology. Courses II, IV, and V are for advanced students, and candidates for higher degrees.

Courses

(I)—(*a*) Economics and Social Science XVI—Ethnology and Geography. Lectures. 2 hours. Dr. Ripley

(*b*) Psychology X—Anthropology. General Introductory Course. Lectures, essays, and discussions. 2 hours. Dr. Farrand

(*a*) and (*b*) are taken together and count as one course

(II)—Psychology XI—Anthropology, Primitive Culture. Lectures, papers, and discussions. 2 hours. Dr. Farrand

III—Physical Anthropology: General Introductory Course. Lectures, essays, and discussions. 2 hours. Dr. Boas

IV—Physical Anthropology: the application of statistical methods to biological problems—Advanced Course. Lectures, reports, and laboratory work. 3 hours. Dr. Boas

V—North American Languages—Seminar. Dr. Boas

Tu. 8–10 P.M.

Equipment

The department is thoroughly equipped with ethnological and anthropological charts and maps, with skulls, casts, and masks of lower races, and with material and instruments for work in anthropometry.

The anthropological section of the University Library is being rapidly enlarged, the journals in the subject are on file in the reading-room, and special efforts have been made to obtain back numbers of all the leading periodicals, the files of which are now practically complete.

The valuable collections of the American Museum of Natural History are available for the students of Columbia University and form a most important adjunct to the work of the department.

Architecture

William R. Ware, LL.D ..... *Professor*
Alfred D. F. Hamlin, A.M..... *Adjunct Professor*
Frank Dempster Sherman, Ph.B ..... *Adjunct Professor*
Grenville Temple Snelling, B.S... *Instructor in Architectural Engineering*
Maximilian K. Kress, A.M..... *Lecturer and Curator of the Collections*
Charles A. Harriman..... *Instructor in Architectural Drawing*
Charles P. Warren, A.M..... *Tutor in Architectural Practice*

General Statement

The first three years are given to parallel courses in Drawing and Design, in History and Ornament, and in Mathematics, Architectural Engineering, Specifications, and Building Materials, with exercises in the reading of French and German text-books and the writing of English. In the second and third years there are lectures on the Theory of Architecture and on the Decorative Arts. Many of these subjects are given in alternate years, two classes taking them together. In the fourth year the students have the choice of an advanced course

in History and Design, or of an advanced course in Scientific and Practical Construction. These are identical with the university courses in these subjects, so that a student who selects one of these courses as an undergraduate may return and take the other as a university student. Special students, not candidates for a degree, are received into these courses if qualified to pursue them.

In alternate years are awarded a Travelling Fellowship of the value of $1300, established by the Trustees in recognition of the liberality to this department of Mr. F. A. Shermerhorn, and a Scholarship in the American School of Architecture in Rome, of the value of $2000, the gift of Mr. C. F. McKim, Courses I, II, IV, V, VIII, IX, X, XIII, and XV are open as electives to seniors in the College.

Courses

I—Ancient Architectural History—3 hours, first year. Text-book. Reber's History of Ancient Art. Mr. Kress

II—Mediæval Architectural History—Byzantine, Romanesque, Gothic. 2 hours, first term, with reading of a French text-book by the second class and of a German text-book by the third class. 2 hours reports and criticisms, and 15 hours original research in library and drawing-room, second term. Exercises in historical design (see XV). Text-books: Corover, L'Architecture Gothique, and Hauser, Styl-lehre des Mittelalters (see XVI). Every other year to the second and third classes together (alternating with III). Professor Ware and Mr. Kress

III—Modern Architectural History—The Renaissance, modern revivals, Oriental and American architecture. 2 hours, first term, with reading of a French text-book by the second class and of a German text-book by the third class 2 hours lectures, and 15 hours research in library and drawing-room, second term. Exercises in historical design (see XV). Text-books: Palustre, L'Architecture de la Renaissance; Hauser, Styl-lehre der Renaissance (see XVI). Every other year to the second and third classes together (alternating with II). Professor Hamlin and Mr. Kress (1897–98)

IV—The Theory of Architecture—In alternate years: (*a*) The theory of form, proportion, symbolism; (*b*) the decorative arts, stained glass, mosaic, fresco (1896–97); (*c*) the theory of color, harmony of color; (*d*) composition and style (1897–98). 1 hour, the second and third classes together. Professor Ware

V—History of Ancient Ornament—The decorative forms of Egyptian, Assyrian, Greek, and Roman art. 1 hour, first year. Professor Hamlin

VI—History of Mediæval Ornament—Byzantine and Gothic ornament. 1 hour (alternating with VII). Every other year to the second and third classes together. Professor Hamlin

VII—History of Modern Ornament—Renaissance, Oriental and Modern ornament. 1 hour (alternating with VI) (1897–98). Every other year to the second and third classes together. Professor Hamlin

VIII—The Elements of Architecture—Mouldings, the order, pedestals, pilasters, pediments, intercolumniation, superposition, balusters and balustrades, arches and arcades, imposts, doors, windows, roofs, spires, steps, stairs, vaults, domes. Eighteen plates required. 3 hours, second term of first year. Professor Sherman

IX—Drawing

(*a*) Architectural drawing, with brush, pencil, and pen—15 hours, first year, Mr. Harriman

(*b*) Historical drawing—1 hour, first year. Ancient History, in connection with course I. Mr. Kress

Second and third years, 15 hours during the second term. In alternate years—Mediæval History, in connection with course II. Professor Ware and Mr. Kress. Modern History, in connection with course III. Professor Hamlin and Mr. Kress

(*c*) Freehand drawing, with pencil, pen, and brush; sketching and drawing of ornament and the figure from lithographs, photographs, and casts; water-colors. About two hours a week throughout four years. Professor Hamlin and Mr. Harriman

(*d*) Sketches and measured drawings from buildings. Second, third, and fourth years. Every afternoon during October. Professor Ware and Professor Hamlin.

X—Projections, Intersections, and Shades and Shadows—3 hours, first term of first year. Twenty plates required. Professor Sherman

XI—Perspective—8 lectures, second year. Eight plates required. Professor Ware

XII—Descriptive Geometry, Stereotomy (Stone-cutting)—1 hour, fourth year. Twenty plates required. Professor Sherman

XIII—Specifications—in successive years:

(*a*) 1 Masonry: stone-work, brick-work, plastering; drainage; fire-proofing (1896–97).

2 Wood-work: carpentry, joinery, hardware, painting, glazing, roofing; slow-burning construction; heating and ventilation (1897–98).

3 Iron-work: steel and iron construction, joints, framing, and bracing; plumbing (1898–99).

The class copy a model specification and are examined upon the lectures. 1 hour, first, second, and third years. Mr. Warren

(*b*) 1 Building-stones, artificial-stones, cements, asphalt, terra-cotta (1896–97).

2 Growth and preservation of wood; paints, glass (1897–98).

3 Metals, fire-proofing (1898–99).

1 hour, first, second, and third years. Professors Ware, Chandler, Rood, Munroe, Ricketts, Moses, Kemp, Peele, Crocker, Hamlin, Mr. Snelling, and Mr. Warren

XIV—Architectural Engineering—(*a*) Analytical geometry: the differential and integral calculus. 2 hours, first year. (*b*) Analytical mechanics:

statics, elementary dynamics. 3 hours, second year. Professor SHERMAN. Text-book: Lanza's Applied Mechanics. (*c*) Applied mechanics: foundations, retaining walls, walls, pillars, beams, trusses, arches, vaults, and domes. 4 hours, third year. Mr. SNELLING

XV—ARCHITECTURAL DESIGN—1 hour, first year, 15 hours, first term of the second and third years. Problems in design: plans, elevations, sections, and details. Professors WARE and HAMLIN

In the second year the problems involve special drill in the use of the orders; in the third year in planning and composition. See XIX.

In the second and third years the afternoons of the second term are mainly occupied by historical study; but there are also a limited number of problems in historical design. See II and III.

XVI—ARCHÆOLOGY—2 hours, second year, in French. Text-books: Corroyer, L'Architecture Gothique; Palustre, L'Architecture de la Renaissance. 2 hours, third year, in German. Text-books: Hauser, Styl-lehre des Mittelalters; Hauser, Styl-lehre des Renaissance (see II and III). Mr. KRESS

XVII—ARCHITECTURAL ESSAYS—1 hour, first, second, and third years. Professor WARE

XVIII—ADVANCED ARCHITECTURAL HISTORY—2 hours, fourth year; reading and writing on special topics with illustrative drawings. Professor WARE

XIX—ADVANCED ARCHITECTURAL DESIGN—Advanced problems in planning and composition. 25 hours, fourth year. Professor HAMLIN

XX—ADVANCED ARCHITECTURAL ENGINEERING—Practical examples in applied mechanics, treated both graphically and analytically. Problems in constructive design. 2 hours lectures, 25 hours practice, fourth year. Mr. SNELLING

XXI—ADVANCED PRACTICE—The study of building processes. 2 hours, fourth year. Mr. WARREN

XXII—UNIVERSITY COURSE IN ARCHITECTURAL HISTORY AND DESIGN

XXIII—UNIVERSITY COURSE IN ARCHITECTURAL ENGINEERING AND PRACTICE

These two university courses are identical with the fourth-year elective courses, XVIII, XIX, XX, and XXI. They are open to graduates of colleges and scientific schools who are qualified to take them, and to experienced draughtsmen.

Properly qualified candidates are received as special students for periods of two months, at a time.

Equipment

The equipment of the department consists of about 15,000 photographs, about 900 books, a classical library of prints and plates, the Avery Architectural Library of about 13,500 volumes, a collection of MS. drawings from the École des Beaux-Arts, a collection of casts of architectural details from ancient and modern Roman buildings, a collection of building-stones, tools, and materials, and about 5000 lantern slides of architectural subjects. The Willard collection of architectural casts at the Metropolitan Museum is open to students every day and two evenings every week.

Astronomy

JOHN KROM REES, E.M., Ph.D. ..... *Professor*
HAROLD JACOBY, Ph.D. ..... *Adjunct Professor*
HERMAN STEARNS DAVIS, Ph.D. ..... *Tutor*

General Statement

Course III is required of students in the Civil and the Sanitary Engineering courses during the third and fourth years.

Course I is elective for juniors and seniors in the College ; courses II and III for seniors ; and courses II–VI for university students and candidates for the A.M. and Ph.D. degrees.

Courses

I—GENERAL ASTRONOMY—This course is historical and descriptive, and is supplemented by visits to the observatory, where students are taught to locate the principal constellations, and are afforded opportunities to view the sun, moon, planets, nebulæ, and stars. Reference books : Young's General Astronomy, Grant's History of Physical Astronomy, Clerke's History of Astronomy during XIX Century, and Clerke's System of the Stars. 2 hours. Professor REES, assisted in the observatory by Dr. DAVIS

Elective for seniors and juniors in the College.

II—SPHERICAL AND PRACTICAL ASTRONOMY—This course consists mainly of the study and use of the sextant for time and latitude determinations, and of the transit instrument for time. Reference book : Hand-book of Practical Astronomy by W. W. Campbell. 2 hours lectures and 2 hours observatory work. Professor REES and Dr. DAVIS

Elective for seniors in the College. Offered as a minor for the degree of A.M.

III—GEODESY—This course deals with the subjects named in the scheme of the Summer School in Geodesy. During the vacation the students are required to attend the summer school for six weeks to learn the use of apparatus, as indicated by the following :

(1) Use of the nautical almanac and American ephemeris.
(2) Sextant observations for time and latitude.
(3) Transit instrument for time.
(4) Base line measurements.
(5) Angle measurements by "directions."
(6) Determination of the azimuth of a line.
(7) Barometric hypsometry.

Reference books : Campbell's Practical Astronomy, Clark's Geodesy, United States Coast Survey Reports, and Jordan's Handbuch der Vermessungskunde. 2 hours lectures first year and first term of the second year. Professors REES, JACOBY, and Dr. DAVIS

Required of students in the Civil Engineering and in the Sanitary Engineering courses during third and fourth years. The third-year work is offered as a minor for the degree of A.M. The fourth year, including summer school work, is offered as a major for the degree of A.M.

IV—Advanced Spherical and Practical Astronomy—This course deals with the subjects of time, latitude, and longitude ; use of equatorial and of zenith telescopes. Reference books : Chauvenet's (2 vols.) Spherical and Practical Astronomy, and Doolittle's Practical Astronomy. 2 hours lectures and 4 hours observatory work for two years. Professors Rees and Jacoby

First year offered as a major for the degree of A.M. or as a minor for the degree of Ph.D. Two years' work offered as a major for the degree of Ph.D.

V—Theoretical Astronomy—This course deals mainly with the theory of comet orbits and their calculation. Reference books : Klinkerfues' Theoretische Astronomie and Oppolzer's Bahnbestimmung. 1 hour, supplemented by computations, for 2 years. Professor Jacoby

First year offered as a major for the degree of A.M. or a minor for the degree of Ph.D. Two years' work offered as a major for the degree of Ph.D.

VI—Theory and Methods of Reduction of Photographic Star Plates.—This course deals with the determination of star places from the photographic plates, and includes the subjects of stellar parallax and proper motion. 1 hour, with practical work, for 2 years. Professor Jacoby

First year offered as a major for the degree of A.M. or a minor for the degree of Ph.D. Two years' work offered as a major for the degree of Ph.D.

Equipment

The apparatus of the department consists principally of the following :

(1) The Rutherfurd equatorial of 13 inches aperture with a correcting lens for photography.
(2) Three transit instruments.
(3) Two fine clocks and several chronometers.
(4) Three chronographs.
(5) Three-inch zenith telescope by Wanschaff of Berlin.
(6) Measuring machines for photographs by Rutherfurd and by Repsold.
(7) Personal equation machine.
(8) Base-measuring apparatus.
(9) Theodolites by Wanschaff of Berlin and Saegmuller of Washington, D.C., with micrometer microscopes reading to a second of arc.

The library is well supplied with the books relating to the work of the department.

Bacteriology

(See page 121)

Biology

(See page 142)

Botany

LUCIEN MARCUS UNDERWOOD, Ph.D. ..... *Professor*
NATHANIEL LORD BRITTON, E.M., Ph.D. ..... *Professor Emeritus*
CARLTON C. CURTIS, Ph.D. ..... *Assistant*
JOHN KUNKEL SMALL, Ph.D. ..... *Curator*

General Statement

Of the courses offered by the department, course III is required of first-year students in the Schools of Applied Science in the courses in Chemistry, Civil Engineering, and Mining Engineering. Courses I and II are elective for juniors and seniors in the College and fourth-year students in the School of Medicine; courses IV, V, VI, and VII for seniors in the College and university students; and course III for seniors in the College and fourth-year students in the School of Medicine.

Courses VII to XIII are primarily for university students.

Courses

I—ELEMENTARY BOTANY, LONGER COURSE—Study of botany in its broadest sense, including introduction, plant anatomy, plant physiology, systematic botany in the biological sequence of the groups, morphology of the flowering plants. Text-book: to be assigned. 1 hour lecture and 4 hours (2 afternoons) laboratory work. Professor UNDERWOOD and Dr. CURTIS

II—ELEMENTARY BOTANY, SHORTER COURSE—Same lectures as Course I. Text-book: to be assigned. 1 hour lecture and 2 hours (1 afternoon) laboratory work. Professor UNDERWOOD and Dr. CURTIS

III—GENERAL BOTANY—Description of the principal features of plant physiology and anatomy, and of the principal characteristics of the sub-kingdoms and classes. 2 hours, first term. Professor UNDERWOOD

IV—PLANT ANATOMY AND PHYSIOLOGY—Study of the principal characteristics of vegetable cells and tissues. Text-book: Goodale's Physiological Botany. Pre-requisite: courses I or II, or their equivalent. 4 hours laboratory work. Dr. CURTIS

V—MORPHOLOGY AND DETERMINATION OF THE FLOWERING PLANTS—Dissection and examination of not less than one hundred species of flowering plants selected by the professor, followed by a systematic study of types of the natural families taken in biological sequence. Text-books: Gray's Structural Botany and Manual of Botany. Pre-requisite: courses I or II, or their equivalent. 4 hours laboratory work and conferences. Professor UNDERWOOD

VI—ECONOMIC BOTANY—Description of drug-plants, food-plants, fibre-plants, and timber-trees, and other plants of economic importance and their products. Pre-requisite: courses I, II, or III, or their equivalent. 1 hour. Professor UNDERWOOD

VII—CRYPTOGAMIC BOTANY—Description of the classes and principal families of Protophyta, Thallophyta, Bryophyta, and Pteridophyta, with examination

of types selected by the professor. Text-book: Bennett and Murray's Cryptogamic Botany, and Vine's Text-book of Botany. Pre-requisite: courses I, II, or their equivalent. 1 hour lecture or conference and 4 hours laboratory work. Professor UNDERWOOD and Dr. CURTIS

Open to candidates for the degree of A.M. whose minor subject is Botany.

VIII—ADVANCED PLANT ANATOMY—Critical study of the cells and tissues of some plant or plants selected. Text-book: De Bary's Comparative Anatomy of Phanerogams and Ferns. Pre-requisite: course IV, or its equivalent. At least 4 hours laboratory work. Dr. CURTIS

Open to candidates for the degree of A.M. whose minor subject is Botany.

IX—THE NATURAL FAMILIES OF FLOWERING PLANTS—Study of the diagnostic characters of the families in biological sequence. Reference books: Engler and Prantl's Natürliche Pflanzenfamilien and Baillon's Histoire des Plantes. Pre-requisite: course V. 1 hour conference and 4 hours laboratory work. Dr. SMALL

Open to candidates for the degree of A.M. whose major subject is Botany.

X—ADVANCED CRYPTOGAMIC BOTANY—Supplementary to course VII. 1 hour lecture or conference and 4 hours laboratory work. Professor UNDERWOOD and Dr. CURTIS

Open to candidates for the degree of A.M. whose major subject is Botany.

XI—COMPARATIVE STUDY OF THE TISSUES OF NOT LESS THAN TEN SPECIES OF PLANTS OF THE SAME GENUS OR FAMILY—Not less than 8 hours laboratory work for two years. Research. Professor UNDERWOOD and Dr. CURTIS

Open to candidates for the degree of Ph.D. whose major subject is Botany.

XII—COLLECTION, DETERMINATION, AND COMPARATIVE STUDY OF THE PLANTS OF SOME RESTRICTED AREA—Field, herbarium, and laboratory work. Not less than 8 hours for two years; field work during two summers. Research. Professor UNDERWOOD

Open to candidates for the degree of Ph.D. whose major subject is Botany.

XIII—CRITICAL STUDY OF A FAMILY OR GENUS OF PLANTS OF NOT LESS THAN FIFTY SPECIES—Field, herbarium, and laboratory work. Not less than 8 hours for two years. Research. Professor UNDERWOOD

Open to candidates for the degree of Ph.D. whose major subject is Botany.

NOTE—Any two of Courses VII, VIII, IX, or X may be taken as a minor for the degree of Ph.D.

Equipment

The botanical laboratory is situated on the upper floor of the laboratory building of the Schools of Applied Science. It is fitted up with tables and cases, and is equipped with compound and dissecting microscopes and accessories and other apparatus for study and investigation. There is a large collection of microscopic preparations. The courses of instruction are illustrated by extensive series of models, charts, and lantern slides. A greenhouse for the cultivation of plants used in instruction is located on the new site of the University.

The herbarium contains about 550,000 specimens, being one of the largest in America ; additions are at present made to it at the rate of about 20,000 specimens a year. It comprises : (1) The collection accumulated by Dr. Torrey, which came into the possession of the University at his death in 1873. (2) The collection of Professor C. F. Meisner of Basle, Switzerland, presented to the University about the time of Dr. Torrey's death by Mr. John J. Crooke. (3) The collections of Dr. A. W. Chapman of Appalachicola, Florida, presented by Mr. Crooke at the same time, containing the types illustrating Dr. Chapman's Flora of the Southern United States. (4) The mosses of the late C. F. Austin. (5) The mosses of the late Dr. J. G. Jaeger, recently acquired. (6) Miscellaneous accumulations since Dr. Torrey's death, now making up more than one third of the whole collection. The herbarium is rich in types of species described by Dr. Torrey, Professor Meisner, Dr. Chapman, Dr. Asa Gray, Mr. Austin, Professor Britton, Dr. Morong, Professor Rusby, and Dr. Small. The various collections are now all arranged in a single series, but each sheet is identified by a designative label or stamp. There are also extensive collections of fruits, seeds, woods, and material illustrating economic botany, placed in cases and drawers.

The portion of the university library classified under botany is shelved in the room containing the herbarium. It now contains 3700 bound volumes and about 5000 pamphlets and extracts. These numbers do not, however, represent the whole reference strength of the collection, for all general works, scientific journals, and publications of general scientific societies are shelved in the main library. All the regularly published journals devoted to botany are received, and the sets of most of them are complete.

Chemistry

(*Including Microscopy and Microbiology*)

CHARLES F. CHANDLER, M.D., Ph.D., LL.D. ..... *Professor*
PIERRE DE PEYSTER RICKETTS, E.M., Ph.D. ..... *Professor*
CHARLES E. COLBY, E.M., C.E. ..... *Adjunct Professor*
CHARLES ERNEST PELLEW, E.M. ..... *Demonstrator*
SAMUEL A. TUCKER, Ph.B. ..... *Assistant Demonstrator*
JAMES S. C. WELLS, Ph.D. ..... *Instructor*
ALEXIS A. JULIEN, Ph.D. ..... *Instructor*
FERDINAND G. WIECHMANN, Ph.D. ..... *Instructor*
LOUIS H. LAUDY, Ph.D. ..... *Tutor*
HENRY C. BOWEN ..... *Tutor*
HERMANN T. VULTÉ, Ph.D. ..... *Tutor*
EDMUND H. MILLER, Ph.D. ..... *Tutor*
ALEXANDER R. CUSHMAN, Ph.D. ..... *Assistant*
MARSTON T. BOGERT, A.B., Ph.B. ..... *Assistant*
BENJAMIN M. JAQUISH, B.S. ..... *Assistant*
JOHN A. MATHEWS, M.S., A.M. ..... *Assistant*
ARTHUR P. VAN GELDER, Ph.B. ..... *Assistant*
GEORGE MÜLLER, Ph.B. ..... *Lecturer*

Courses in Chemistry

I—General Inorganic Chemistry—Introduction. Laws of Chemical combination, history, occurrence, preparation, and properties of the elements and their principal compounds. Text-book: Newth's Inorganic Chemistry. 2 lectures and 1 recitation or 1 laboratory exercise. Professor Chandler, Dr. Wiechmann, and Dr. Vulté

Required of all first-year students in the Schools of Mines, Chemistry, and Engineering. Open as an elective to sophomores, juniors, and seniors in Columbia College; with two lectures and one afternoon in the laboratory.

II—Physics and General Chemistry—Text-books: Ganot's Physics and Newth's Inorganic Chemistry. 4 lectures. Professor Chandler

Required of first-year students in the School of Medicine. Open as an elective to seniors in Columbia College.

III—Chemical Physics—Text-book: Wiechmann's Lecture Notes on Theoretical Chemistry. 2 hours lectures and recitations first term. Dr. Wiechmann

Required of first-year students in the School of Chemistry. Open as an elective to seniors in Columbia College.

IV—Stoichiometry—Text-books: Wiechmann's Lecture Notes on Theoretical Chemistry; Thorpe and Tate's Series of Chemical Problems. 2 hours lectures and recitations second term. Dr. Wiechmann

Required of first-year students in the School of Chemistry. Open as an elective to seniors in Columbia College.

V—Chemical Philosophy—Energy and energy forms, chemical energy, photo-chemistry, thermo-chemistry, electro-chemistry. Text-book: Wiechmann's Lecture Notes on Theoretical Chemistry. 2 hours lectures and recitations. Dr. Wiechmann

Required of second-year students in the School of Chemistry. Open to candidates for the degrees of A.M. and Ph.D. whose minor subject is Chemistry. Pre-requisite: course IV.

VI—Theoretical Chemistry, Advanced Course—History of chemical theory. Study of selected problems in theoretical chemistry. Scientific principles of chemical analysis. Physico-chemical methods. 4 hours lectures and conferences. Dr. Wiechmann

Open to candidates for the degree of Ph.D. whose minor subject is Chemistry. Pre-requisite: courses IV and V.

VII—Preparation of Inorganic Compounds, Short Course—Laboratory work 5 afternoons and one conference during the last half of the second term. Text-book: Vulté and Neustadt's Laboratory Manual of Inorganic Preparations. Dr. Vulté

Required of third-year students in the School of Chemistry.

VIII—Preparation of Inorganic Compounds, Long Course—8 hours and one conference. Bender and Erdmann's Chemische Präparatenkunde. Dr. Vulté

Open to candidates for the degree of A.M. whose major subject is Chemistry.

IX—Qualitative Analysis—Lectures, recitations, and laboratory practice. Text-books: Fresenius' Qualitative Analysis: Wells and Cushman's Schemes

for Qualitative Analysis. 2 lectures, 2 recitations, and laboratory practice of at least 8 hours. Dr. WELLS and Dr. CUSHMAN

Required of first-year students in the Schools of Mines and Chemistry, and in the courses of Electrical Engineering. Open to seniors in Columbia College. Pre-requisite or parallel: course I.

X—INVESTIGATION OF NEW METHODS OF QUALITATIVE AND QUANTITATIVE ANALYSIS—Conferences and laboratory practice at least 10 hours. Professor RICKETTS and Dr. WELLS

Open to candidates for the degree of A.M. whose major subject is Chemistry. Prerequisite: courses I and IX.

XI—THE SPECTROSCOPE AS APPLIED TO QUALITATIVE AND QUANTITATIVE ANALYSES—Laboratory practice and conferences with the instructors, 8 hours. Professor RICKETTS and Dr. WELLS

Open to candidates for the degree of A.M. whose minor subject is Chemistry.

XII—CHEMICAL REACTIONS, QUALITATIVELY AND QUANTITATIVELY CONSIDERED—Conferences and laboratory practice at least 8 hours. Dr. WELLS and Mr. BOWEN

Open to candidates for the degree of A.M. whose major subject is Chemistry.

XIII—QUANTITATIVE ANALYSIS—Text-books: Cairns' Quantitative Analysis and Fresenius' Quantitative Analysis. 2 lectures and 2 recitations and laboratory practice 15 hours. Professor RICKETTS and Mr. BOWEN

Required of second-year students in the School of Chemistry. Open to candidates for the degree of A.M. whose major subject is Chemistry.

XIV—QUANTITATIVE ANALYSIS—Text-books: Cairns' Quantitative Analysis and Fresenius' Quantitative Analysis. 1 lecture, 1 recitation during the second year, and laboratory practice 15 hours during the second year and the second term of the third year. Professor RICKETTS and Mr. BOWEN

Required of second- and third-year students in the course of Metallurgy.

XV—QUANTITATIVE ANALYSIS—Text-book: Horn, Chem. Tech. Analyse organischen Stoffe. 2 lectures, 2 recitations, and 15 hours laboratory practice second term of the third year. Professor RICKETTS and Dr. VULTÉ

Required of third-year students in the School of Chemistry, and open to candidates for the degree of A.M. whose major subject is Chemistry.

XVI—QUANTITATIVE ANALYSIS—Text-books: Cairns' Quantitative Analysis, 3d edition. 1 lecture, 1 recitation, and 15 hours laboratory practice during the second term of the second year. Professor RICKETTS, Dr. MILLER, and Mr. MATHEWS

Required of second-year students in the courses of Mining and Electrical Engineering, but limited to one lecture and 3 hours per week for Electrical Engineers.

XVII—SPECIAL VOLUMETRIC METHODS OF QUANTITATIVE ANALYSIS—Conference and laboratory work at least 8 hours. Professor RICKETTS and Dr. VULTÉ

Open to candidates for the degree of A.M. whose major subject is Chemistry.

XVIII—REVISION OF CONSTANTS EMPLOYED IN PROXIMATE ANALYSES—Conferences and laboratory work at least 12 hours. Professor RICKETTS and Dr. VULTÉ

Open to candidates for the degree of Ph.D. whose major subject is Chemistry.

XIX—Special Methods for the Analysis of Plants and their Products—Fibres, starches, sugars, oils. Conferences and laboratory work at least 12 hours. Research. Professor Ricketts and Dr. Vulté

Open to candidates for the degree of Ph.D. whose major subject is Chemistry.

XX—Electrolytic Analysis, Qualitative and Quantitative—Conferences and laboratory work at least 12 hours for 2 years. Research. Professor Ricketts and Dr. Miller.

Open to candidates for the degree of Ph.D. whose major subject is Chemistry.

XXI—Assaying—Ores and metallurgical products. Text-book: Ricketts and Miller's Notes on Assaying. 2 lectures, 2 recitations, and laboratory practice 15 hours during the first term of the third year. Professor Ricketts, Dr. Miller, and Mr. Mathews

Required of third-year students in the courses of Mining Engineering, Metallurgy, and Analytical and Applied Chemistry during the first term.

XXII—Special and Quick Methods of Assaying Ores, Metals, and Furnace Products—Conferences and laboratory work 15 hours for one term. Professor Ricketts and Dr. Miller

Open to candidates for the degree of A.M. or Ph.D. whose minor subject is Chemistry.

XXIII—Ore Testing for the Proper Selection of Methods of Treatment—Conferences and laboratory practice one afternoon for one half of the second term. Professor Ricketts and Dr. Miller

Required of fourth-year students in the courses of Metallurgy and Mining Engineering.

XXIV—Organic Chemistry, Elementary Course—Lectures 4 hours. Text-book: Bernthsen's Kurzes Lehrbuch der organischen Chemie. Professor Colby

Minor for the degree of A.M. Pre-requisite: courses I, III, IV, V.

XXV—General Organic Chemistry—In this course the subject is fully treated and the student prepares in the laboratory a large number of organic compounds, besides making elementary analyses and molecular weight determinations. Text-books: Bernthsens's Kurzes Lehrbuch der organischen Chemie; Levy's Organische Praeparate; Gattermann's Praxis der organischen Chemikers. Lectures and recitations 6 hours, and laboratory practice at least 18 hours. Professor Colby and Mr. Bogert

Required of fourth-year students in the School of Chemistry.

Major for the degree of A.M. Pre-requisite: courses I, III, V, VIII, IX, XIII.

XXVI—Advanced Organic Chemistry, Minor Courses—Any one of the following subjects: (1) Studies in thermo-chemistry; (2) Physical properties of organic compounds as related to their molecular constitution; (3) Dissociation coefficients of organic acids; (4) Chemical Dynamics; (5) The terpenes and camphors; (6) Synthetic alkaloids; and such other subjects as may be selected. Personal instruction and laboratory work not less than 12 hours. Professor Colby and Mr. Bogert

Minor for the degree of Ph.D. Pre-requisite: course XXV.

XXVII—Advanced Organic Chemistry, Major Course—Original investigation and research. Subject to be assigned or approved by the professor. Personal instruction, conferences, private study, and laboratory work. Professor Colby and Mr. Bogert

Major for the degree of Ph.D. Pre-requisite: course XXV.

XXVIII—Physiological Chemistry—Including the preparation and properties of the chief constituents of plants and animals. Text-book: Pellew's Manual of Medical and Physiological Chemistry. This course is given twice a year, and consists of 2 lectures and 2 afternoons in the laboratory for one term. Messrs. Pellew, Tucker, Muller, and Van Gelder

Required of first-year students in the School of Medicine. Open as an elective to seniors in Columbia College. Open to candidates for the degree of A.M. whose minor subject is Chemistry.

XXIX—Applied Chemistry, General Course—The subjects discussed are: (1) Air: nature, sources of contamination, sewer gas, plumbing, draining, disinfection, ventilation. (2) Water: composition of natural waters, pollution, disposal of sewage and house refuse. (3) Artificial illumination: candles, oils and lamps, petroleum, gas and its products, electric light. (4) Limes, mortars, and cements. (5) Building stones: decay and preservation. (6) Timber and its preservation: pigments, paints, essential oils, varnishes, preserving processes. (7) Explosives: gunpowder, gun-cotton, nitro-glycerine. (8) Glass and ceramics. (9) Electro-metallurgy. (10) Photography. Text-books: Park's Hygiene and Wagner's Chemical Technology. 3 lectures. Professor Chandler

Required of all second-year students in the Schools of Mines, Chemistry, and Engineering.

XXX—Applied Chemistry, Special Course—The subjects discussed are: (1) Chemical Manufactures: acids, alkalies, and salts. (*a*) Sulphur, sulphurous acid, hyposulphites, sulphuric acid, bisulphide of carbon. (*b*) Common salts, soda ash, hydrochloric acid, chlorine, binoxide of manganese, bleaching-powder, chlorates, chlorimetry. (*c*) Carbonate of potash, caustic potash. (*d*) Nitric acids and nitrates. (*e*) Iodine, bromide. (*f*) Sodium aluminium, magnesium. (*g*) Phosphorus, matches. (*h*) Ammonia salts. (*i*) Cyanides. (*j*) Alum, copperas, blue vitriol, salts of magnesia, baryta, strontia. (*k*) Borates, stannates, tungstates, chromates. (*l*) Salts of mercury and silver. (*m*) Oils, fats, soaps, and glycerine. (2) Food and drink: milk, cereals, starch, bread, meat, tea, coffee, sugar, fermentation, wine, beer, spirits, vinegar, preservation of food. (3) Clothing: textile fabrics, bleaching, dyeing, calico printing, paper, tanning, glue, india-rubber, guttapercha. (4) Fertilizers: guano, superphosphates, poudrettes. Text-books: Wagner's Chemical Technology, Lunge's Manufacture of Sulphuric Acid and Soda; Schultz & Julius' Kuenstlichen Organischen Farbstoffe; Schultz' Chemie des Steinkohlentheers. 3 lectures and 1 recitation for two years; one half the subject being discussed each year. Professor Chandler and Mr. Pellew

Required of third- and fourth-year students in the School of Chemistry.

Courses in Microscopy and Microbiology

XXXI—Microscopy, Short Course—Simple and Compound lenses, stands, construction, variety, choice, use, and care; objectives and oculars, optical principles, variety, care; method of work, illumination; the eyes, peculiarities, proper use, protection; drawing, freehand, with camera lucida, with projection by mirror and by prism; magnification, and micrometry; mounting, dry, in solid and in liquid media; section cutting and staining; textile fibres; foods

and adulterants ; micro-chemistry ; general accessory apparatus. Two exercises of 2 hours each. Dr. JULIEN

Required of students in the second year in the School of Chemistry.

XXXII—MICROSCOPY, LONG COURSE—Early history, higher optics, special accessories, and microscopical technique as above specified ; section cutting with microtome, soft and hard tissues, crystals, rock sections, and loose grains, double staining, micro-refractometry, and homogeneous immersion fluids ; micro-spectroscopy and blood-examination ; micro-mineralogy and micro-lithology ; vegetable and animal fibres ; paper, ink, and handwriting ; urinary deposits ; photo-micrography. 4 hours two years. Dr. JULIEN

Open to candidates for the degree of A.M. whose major subject is Chemistry, and for Ph.D. whose minor subject is Chemistry.

XXXIII—MICRO-CHEMISTRY, GENERAL TECHNIQUE—Salts of ten elements ; micro-toxicology, spectroscopy, and blood ; micro-refractometry. 2 hours. Dr. JULIEN

Open to candidates for the degree of A.M. or Ph.D. whose minor subject is Chemistry.

XXXIV—THE EXAMINATION OF FOODS AND DRUGS, GENERAL TECHNIQUE—Study of pure and adulterated foods and drugs. 2 hours. Dr. JULIEN

Open to candidates for the degree of A.M. or Ph.D. whose minor subject is Chemistry.

XXXV—THE STRUCTURE OF BUILDING MATERIALS, GENERAL TECHNIQUE—Rock-forming minerals, building stones, brick, and terra-cotta ; timber ; cast and wrought iron and steel. 4 hours. Dr. JULIEN

Open to candidates for the degree of A.M. or Ph.D. whose minor subject is Chemistry.

XXXVI—PHOTO-MICROGRAPHY, GENERAL PHOTOGRAPHY—Apparatus and lenses, light, color, sensitive plates, exposure, development, and printing. 4 hours. Dr. JULIEN

Open to candidates for the degree of A.M. or Ph.D. whose minor subject is Chemistry.

XXXVII—MICROBIOLOGY—The use of high-power lenses, refraction images, adjustable collar, and immersion fluids, in the study of unicellular organisms, yeasts, amœbæ, infusoria, moulds, algæ and fungi of fresh waters ; fauna of potable waters ; general bacteriology, and the preparation of culture media ; examination of bacteria, staining, mounting ; air bacteria, examination of air of class-rooms ; water bacteria ; biological examination of Croton water ; colonies, culture, and identification of species. Two exercises of 2 hours. Dr. JULIEN

Required of the third-year students in the School of Chemistry.

XXXVIII—BACTERIOLOGY, LONG COURSE—Including : (*a*) General bacteriology, laboratory methods and technique, culture media, isolation of species in colonies, cultures, and identification. (*b*) Biological analyses of air and potable waters ; bacteria of sewage, of typhoid fever, and of Asiatic cholera ; bacteriological tests of disinfectants and germicides, and of water filters. Required 4 hours for two years. Dr. JULIEN

Open to candidates for the degree of A.M. or Ph.D. whose major subject is Chemistry.

XXXIX—BREWERS' YEAST, GENERAL TECHNIQUE—Yeasts of malt, cider, and wines ; isolation of pure cultures ; trial of efficiency, and study of the products of fermentation ; examination of commercial samples. Required 4 hours. Dr. JULIEN

Open to candidates for the degree of A.M. whose major subject is Chemistry, and for the degree of Ph.D. whose minor subject is Chemistry.

Course in Toxicology

XL—TOXICOLOGY—The preparation and detection of the more important mineral and vegetable poisons. Fifteen weekly lectures and fourteen laboratory exercises of 2 hours each. The course is given twice during the year, the class being divided into four sections, two of which pursue the subject during the first term, the other two sections during the second term. Messrs. PELLEW, TUCKER, and JAQUISH

Required of second-year students in the School of Medicine.

Equipment

AT THE 49TH STREET BLOCK

There is a chemical lecture-room fully supplied with apparatus and instruments and all modern facilities for the experimental illustration of the different lecture courses.

The museum of general inorganic and organic chemistry, and of the chemical arts, contains the elements and all their more important compounds; representative sets of specimens of all classes of organic compounds, materials, and products illustrating the chemical arts, together with models, pictures, and diagrams.

The qualitative laboratory is provided with tables, re-agents, and all the necessary facilities to enable each student to become familiar with the reactions of the different metals and salts. The student is required to repeat all the experiments of the course of instruction at his own table in this laboratory. When he has acquired a thorough experimental knowledge of a group of bases, single members of the group, or mixtures, are submitted to him for investigation. He thus proceeds from simple to complex cases, till he is able to determine the composition of the most difficult mixtures. Whenever necessary, he uses the spectroscope in his work.

The quantitative laboratory is provided with tables, re-agents, and all necessary apparatus and instruments to enable the student to actually execute with his own hands quantitative analyses. He first analyzes substances of known composition, such as crystallized salts, that the accuracy of his work may be tested by the comparison of his results with the true percentages. He is then required to make analyses of materials occurring in commerce, or in the application of technical sanitary chemistry, metallurgy, and the like, as ores, fertilizers, and waters.

The laboratory for general inorganic chemistry—A portion of one of the laboratories is set apart for the use of the students pursuing the course, and they are provided with the apparatus necessary to enable them to repeat all of the simpler experiments in general chemistry, such as the preparation of gases.

Laboratory for the preparation of inorganic compounds—A portion of one of the laboratories is set apart for the use of students pursuing courses VII and VIII, and is provided with the necessary apparatus and materials.

The organic laboratory is especially provided with all necessary apparatus and instruments for the determination of boiling points, melting points, specific gravities, vapor densities, for proximate and elementary analyses, and for the synthetic preparation of organic compounds.

The assay laboratory is provided with crucible, roasting and muffle furnaces for the fire assay of ores ; also with sampling tables, stamp mill, amalgamators, and the like, for ore testing on a larger scale ; and with the necessary rolls and other apparatus for the wet assay of bullion.

The laboratories for microscopy and microbiology are situated in the upper story of the main building of the School of Mines, and are well lighted from the sides and from skylights. They are fully equipped with microscope stands for the use of the students, and with all apparatus and re-agents required for microscopical manipulations for those branches of biological study which are needed in sanitary and bacteriological investigations and for photo-micrography. There is a culture room for bacterial growths, a dark room for photo-micrographic work, culture baths, and sterilizing ovens, and the more important apparatus required in special investigations. The projection lantern with the electric light is in common use, and work tables are supplied with incandescent lights. The interesting and extensive collection of microscopes and microscopic accessories and objects, bequeathed to the University by its late President, Dr. Barnard, are preserved in a glass case in this laboratory.

AT THE SCHOOL OF MEDICINE AT 437 WEST 59TH STREET

There is a physical and chemical lecture-room, fully supplied with apparatus, instruments, and specimens for the illustration of the lectures on these subjects.

There is a chemical laboratory fully equipped with chemical apparatus, microscopes, and other instruments in which the students practise the processes of medical and physiological chemistry.

There is a special laboratory for toxicology, fully equipped with apparatus and material.

Diseases of Children

ABRAHAM JACOBI, M.D.....*Clinical Professor*
FRANCIS HUBER, M.D.....*Chief of Clinic*
JOSEPH HUBER, M.D.....*Clinical Assistant*
F. S. MCHALE, M.D.....*Clinical Assistant*
LOUIS M. SILVER, M.D.....*Clinical Assistant*
F. BIERHOFF, M.D.....*Clinical Assistant*

Courses

I—CLINICAL LECTURES AT THE VANDERBILT CLINIC UPON THE DISEASES OF CHILDREN—1 hour. Professor JACOBI

Required, in the third year, of candidates for the degree of M.D.

II—PRACTICAL INSTRUCTION AT THE VANDERBILT CLINIC IN THE DIAGNOSIS AND TREATMENT OF THE DISEASES OF CHILDREN—10 lessons for each student. Dr. FRANCIS HUBER

Optional, in the third year, for candidates for the degree of M.D.

III—HOSPITAL CLINIC—Bellevue Hospital, Mondays, 2.30 P.M., from April to June. Professor Jacobi

Optional.

Dermatology

GEORGE HENRY FOX, A.M., M.D. ..... *Clinical Professor*
GEORGE THOMAS JACKSON, M.D. ..... *Chief of Clinic*
CHARLES C. RANSOM, M.D. ..... *Clinical Assistant*
JOHN CABOT, M.D. ..... *Clinical Assistant*
J. H. P. HODGSON, M.D. ..... *Clinical Assistant*
JOHN ALDRICH, M.D. ..... *Clinical Assistant*
CHARLES T. DADE, M.D. ..... *Clinical Assistant*

Courses

I—CLINICAL LECTURES AT THE VANDERBILT CLINIC UPON THE DISEASES OF THE SKIN—1 hour. Professor FOX

Required, in the fourth year, of candidates for the degree of M.D.

II—PRACTICAL INSTRUCTION AT THE VANDERBILT CLINIC IN THE DIAGNOSIS AND TREATMENT OF THE DISEASES OF THE SKIN—12 lessons for each student. Dr. JACKSON

Optional, in fourth year, for candidates for the degree of M.D.

Economics and Social Science

RICHMOND MAYO-SMITH, Ph.D. ..... *Professor*
EDWIN ROBERT ANDERSON SELIGMAN, LL.B., Ph.D. ..... *Professor*
FRANKLIN HENRY GIDDINGS, A.M. ..... *Professor*
JOHN BATES CLARK, Ph.D., LL.D. ..... *Professor*
WILLIAM ZEBINA RIPLEY, Ph.D. ..... *Prize Lecturer*
ARTHUR M. DAY, A.M. ..... *Assistant*

General Statement

The courses offered fall into two divisions; Political Economy and Finance, and Sociology and Statistics. Courses I (A) and II are the general introductory courses primarily intended for juniors in the College. Courses III and V are intended to give a general survey, respectively, of political economy and finance, from the historical and comparative point of view. While serving as useful courses for those intending to specialize still further in economics or sociology, they are especially recommended to those who desire to secure some knowledge of political economy as a part of a liberal education. Courses I to VIII will be found of especial value to law students seeking to supplement their purely legal studies. Course XVI is an introductory course leading up to course XX. Course XX is the general systematic course laying the basis for the other courses in applied sociology. Courses XVI to XXIII, together with courses III and IV, will be of value to students of theology who wish to extend their knowledge of the social problems of the day.

In addition to the regular courses, there are five seminars, organized to furnish students opportunity for special investigation and original research. The preliminary seminar in political economy (XIII) is intended for seniors and those students who have had only one year in economics. The other seminars are for advanced students. Every candidate for the degree of master of

arts or doctor of philosophy, taking his major subject in this department, must work in at least one of the seminars.

The allied courses in history and public law will be found extremely useful for the students of social science, because of the close interrelations of history, law, and economics. Taken together these courses constitute a complete scheme of political science.

Course I (A) is required of juniors in the College. Course II is open to juniors in the College. Courses III, V, VI, and XVI are open to seniors in the College and other candidates for the degree of A.B. The remaining courses are intended for university students.

Courses in Political Economy and Finance

I (A)—Elements of Political Economy—Walker's Political Economy—Recitations and essays. 2 hours, second term. Professor Mayo-Smith and Mr. Day

II—Economic History—Selected text-books, recitation, essays, and lectures. 2 hours, first term. Professor Seligman and Mr. Day

III—Historical and Practical Political Economy—Lectures, discussions, and reading. 3 hours. Professor Mayo-Smith

IV—History of Political Economy—Lectures, discussions, and readings. 2 hours. Professor Seligman

V—Science of Finance—Lectures and private reading. 2 hours. Professor Seligman

VI—Financial History of the United States—Lectures and private reading. 2 hours, second term. Professor Seligman

[To be given in 1897-8, and every alternate year thereafter.]

VII—Tariff History of the United States—Lectures and private reading. 2 hours, first term. Professor Seligman

[To be given in 1897-8, and every alternate year thereafter.]

VIII—Railroad Problems—Lectures and private reading. 2 hours, second term Professor Seligman

[To be given in 1897-8, and every alternate year thereafter.]

IX—Economic Theory I—The Static Laws of Distribution—Lectures, discussions, and private reading. 2 hours, first term. Professor Clark

X—Economic Theory II—The Dynamic Laws of Distribution—Lectures, discussions, and private reading. 2 hours, second term. Professor Clark

XI—Communistic and Socialistic Theories—Lectures, discussions, and private reading. 2 hours, first term. Professor Clark

XII—Theories of Social Reform—Lectures, discussions, and private reading. 2 hours, second term. Professor Clark

XIII—Preliminary Seminars in Political Economy—Essays, discussions, and private reading. 1 hour. Professor Seligman and Mr. Day

XIV—Seminar in Political Economy—For advanced students. 2 hours bi-weekly. Professor Clark

XV—Seminar in Political Economy and Finance. For advanced students. 2½ hours bi-weekly. Professor Seligman

XXIX—Seminar in Political Economy—For advanced students. 2 hours bi-weekly. Professor Mayo-Smith

Courses in Sociology and Statistics

XVI—Physical Geography and Anthropology—Lectures, and private reading. 2 hours. Dr. Ripley

XVII—Statistics and Sociology—Lectures, illustrations, and private reading. 2 hours, first term. Professor Mayo-Smith

XVIII—Statistics and Economics—Lectures and private reading. 2 hours, second term. Professor Mayo-Smith

XIX—Theory of Statistics—Lectures and private reading. 2 hours, second term. Professor Mayo-Smith

[To be given in 1897–8 and every alternate year thereafter.]

XX—General Sociology—Lectures and private reading. 2 hours, first term. Professor Giddings

XXI—Sociological Laws—Lectures and private reading. 2 hours, second term. Professor Giddings

XXII—Pauperism, Poor Laws, and Charities—Lectures and private reading. 2 hours, first term. Professor Giddings

XXIII—Crime and Penology—Lectures and private reading. 2 hours, second term. Professor Giddings

XXIX—Work in the Statistical Laboratory—Exercises in analyzing, criticising, and tabulating statistics. 2 hours, bi-weekly. Professor Mayo-Smith

XXX—Seminar in Sociology—2 hours, bi-weekly. Professor Giddings

Equipment

The library facilities are unexcelled. Every journal of importance, American or foreign, dealing with economics or social science, is taken regularly by the library. Any book needed by advanced students can usually be bought at once. The special library of history and political science comprises about sixty-five thousand volumes.

Students of economics and social science will find New York to be a centre of library facilities absolutely unrivalled elsewhere in this country. In addition to the university library, there are rich treasures at the New York Public Library on the Astor, Lenox, and Tilden foundation, New York Historical Library, Long Island Historical Library, Library of the Charity Organization Society, the Bar Association Library, and the Law Institute Library, to each of which students have access under favorable conditions. Advanced students also have at their disposal the library of the professor of Political Economy and Finance, which contains the most complete collection of works on political economy to be found in the United States.

The facilities offered to students of sociology include a large library of general and special works, and unusual opportunities for field work. A generous gift for works on sociology has provided a very complete equipment of publications on sociological theory, the history of the family, pauperism, crime, and penology. Arrangements have been made with the Charity Organization Society, the University Settlement, the East-Side House, and the Brooklyn Bureau of Charities by which students can become fully acquainted with actual work among the people and with the most perfect methods.

Education

(See page 125)

Electrical Engineering

(See page 67)

Engineering

CIVIL ENGINEERING

WILLIAM HUBERT BURR, C.E. ..... *Professor*
ANDREW ERNEST FOYÉ, C.E. ..... *Instructor*
ADOLPH BLACK, C.E. ..... *Tutor*
CHARLES DERLETH, JR., C.E. ..... *Assistant*

General Statement

The work in the department of Civil Engineering is designed to afford a thorough analytical training, as well as numerous and extended practical exercises in those matters pertaining to the profession of the civil engineer, both in regard to all classes of structures and in connection with the various developments and applications of power. Its broad character also adapts it in a marked manner to the needs of those who desire advanced educational training as a preparation for callings not wholly included in the profession of Civil Engineering, but which to some extent are related to it. The theoretical portion of the instruction is based largely upon the courses given in the departments of Mathematics, Mechanics, and Physics, and the results obtained are applied to practical engineering work. Special stress is laid upon the design by the student of the various structures and machines which the civil engineer is called upon either to construct, or the operation of which he is required to direct, in the practice of his profession. The instruction is given by lectures, demonstrations by the students, and frequent conferences, co-ordinate with which the work of design is continuously carried on. Courses I to XVII inclusive are required of all students in Civil Engineering. Courses I, V, VI, XV, XVI, and XVII, are required of all students in Mining Engineering and Metallurgy. Course V is required of all students in Electrical Engineering. All courses are open as electives to any students who have had the requisite preparation to take them.

Courses

I—Theory of Surveying—Pacing survey, contouring and levelling by hand-level—Construction, use, and adjustment of instruments—Farm survey—Theory of stadia measurement—Azimuth traverse—Repetition traverse—Polaris observations—Balancing survey. Reference book: Johnson's Theory of Surveying. Mr. Black

II—Road Engineering—Surveys and location of roads—Drainage and grades—Foundations—Selection and treatment of materials—Telford and McAdam pavements—City pavements of brick, Belgian and granite blocks, asphalt, cement, and concrete—Machinery and tools required in the construction of roads and pavements—Maintenance of roads and pavements—Elements of expense and total cost of construction and maintenance. Reference book: Byrne's Highway Construction. Lectures and recitations. 2 hours first term, second year. Mr. Black

III—Water-Supply Engineering and Irrigation—Rainfall and storage—Flow of streams—Influence of soils, elevation, and geological character of water-shed—Methods of supply, gravitation, pumping from rivers or natural underground storage, flow from the latter—Reservoir construction—Sedimentation and filtration—Distributing system—House supply and wastage—Irrigation of land—Amounts and periods of application—Construction of, and flow through, division and distributing canals. Reference book: Fanning's Water Supply and Wilson's Irrigation Engineering. Lectures and recitations. 2 hours second term, second year. Mr. Foyé

IV—Masonry Structures—Pressure and abutting power of earth—Design and construction of retaining walls—Stability of masonry structures in general—Stability of towers and chimneys under wind pressure—Theory and design of arches with vertical and inclined loads—Theory and design of reservoir walls, earth and high masonry dams—Cement, concrete, and masonry. Reference books: Cain's Retaining Walls and Baker's Masonry and Foundations. Lectures 1 hour during third year with frequent conferences and continuous work in design. $2\frac{1}{2}$ hours of problem and design work are required in the drawing academy. Mr. Foyé

V—Elasticity and Resistance of the Materials of Engineering—Laws of elasticity in homogeneous materials—Coefficients of elasticity—Relations between stresses and strains—Common and exact theories of torsion and flexure—Elastic limits, working stresses, and ultimate resistances of wrought-iron, cast-iron, steel, alloys, timbers, building stones, cement, concrete, and masonry—Complete treatment of simple and continuous beams—The design and construction of iron, steel, and timber columns and beams, including the design and construction of plate girders—Shafts—Cables—Fatigue of materials—Specifications. 3 hours lectures and recitations during the first term, and 2 hours during the second term, third year. $7\frac{1}{2}$ hours first term, and 5 hours second term, of problem and design work, are required in the drawing academy. Reference and text-book: Burr's Elasticity and Resistance of Materia Professor Burr

VI—Graphic Statics—Equilibrium polygon, and polygonal frames for all systems of loads—Graphical representations of shears and moments for both non-continuous and continuous beams—Fixed and moving loads—Lines of influence—Applications to bridge and railway trusses. 2 hours lectures during the second term, third year. 5 hours of problem and design work are required in the drawing academy. Mr. Black

VII—Analytical Theory of Trusses—The truss element—Simple cantilever and non-continuous trusses with parallel chords—Fixed and moving loads—Through and deck spans—Positions of any system of concentrated moving loads for greatest chord and web stresses when chords are both parallel and not parallel—Combination of moment and graphic methods—Skew and irregular trusses—Applications to highway and railway trusses—Braced arches and arched ribs. 2 hours lectures during the second term, third year, with frequent conferences and problems in computations of stresses and preparation of stress sheets. 5 hours of problem and design work are required in the drawing academy. Reference and text-book: Burr's Stresses in Bridge and Railway Trusses. Mr. Black

VIII—Sewage Disposal—Treatment and disposal of sewage and refuse of manufacturing—Sedimentation by gravity and by chemical purification—Treatment of effluent by continuous and intermittents and filtration—Fertilization—Intermittent application to soil with under-drainage—Disposal of sludge—Theory and construction of sand filters—Plants for sewage treatment—Pollution of potable water and its purifications by continuous and intermittent sand filtration—Design of sand filter for water purification. 2 hours lectures first term, third year. Professor Burr

IX—Railroad Engineering—Economics of location, operation, and maintenance—Equating grades and curves—Estimating quantities and writing specification—Contracts—Track and switch work—Block and other systems of signalling—Buildings and structures—Organization. 3 lectures half of first term, and all of the second term, fourth year. Reference book: Wellington's Railway Location. Mr. Foyé

X—The Design and Construction of Bridges, Roofs, and Buildings—Railway and highway bridges—Pin and riveted connections—Single and multiple systems of bracing—the design of details for bridges, roofs, and buildings—Floors for railway and highway bridges—The design and operation of drawbridges, including engines, locking, lifting, and turning machine—Cantilever structures—Wind loads and stresses—Single and double track viaducts or trestles in iron, steel, and timber—Lateral and transverse systems of bracing—The design and construction of elevated railroads—The complete designs of railway structures, with estimates of cost—The erection of iron, steel, and timber structures, including the costs of erection. 2 hours lectures and recitations, fourth year, with frequent conferences and continuous work in design. 5 hours of problem and design work are required in the drawing academy. Reference and text-book: Burr's Stresses in Bridge and Railway Trusses. Professor Burr

XI—Foundations—Earth foundations—Foundations for buildings—Safe loads on masonry and foundation beds—Pile driving and pile foundations—Safe loads for piles—Protection and preservation of piles and timber—Sheet piling and coffer-dam methods—Pneumatic foundations and caisson work—Open dredging—Bridge piers of masonry and cylinders—Piers for deep foundations—Methods of working in quicksands—Tunnelling. Reference books: Patton's Foundations and Baker's Masonry and Foundations. 2 hours lectures, fourth year, with frequent conferences and continuous work in design. 5 hours of problem and design work are required in the drawing academy. Professor Burr

XII—Hydraulics—Flow of water through orifices—Time required for discharge of canal locks and similar volumes—Weir discharge and gauging by weirs—Gauging of water for systems of irrigation—Flow through and discharge of pipes—Design of pipe systems for city water-works—The Venturi meter—Flow in and discharge of open canals and rivers—Gauging of streams by current meters, floats, and other means—Backwater—Impulse of streams—The motion and flow of air and other gases in and through pipes and orifices. Reference book: Merriman's Hydraulics. 2 hours lectures during first term of fourth year, with frequent conferences and problems. Professor Burr

XIII—The Design and Construction of Sewers and River and Harbor Improvements—Sewage and surface drainage of cities and towns—Separate and combined systems of sewers—Capacities of mains and branches—Catch basins—Manholes—Chimneys or ventilators—Flush tanks—Outfalls—Grades—Flow or discharge of sewers—Construction—Jetty system of river improvements—Scouring action of currents—Erosion of river banks—Dams for improvement of river navigation—Breakwater—Dykes—Groins—Buttress work—Docks—Harbor Works—Iron piers—Estimates of cost. 2 hours lectures second term, fourth year, with frequent conferences. Professor Burr

XIV—Theory of Railroad Surveying—Simple, compound and reversed curves—Transition curves—Cross-section work—Earthwork computations—Office work. Lectures and practical problems. 1 hour, third year. Reference book: Searle's Field Engineering. Mr. Foyé

The Summer School of Surveying

This school is conducted during ten to twelve weeks of each summer vacation at a point in the country near Litchfield, Conn., where ample facilities are provided for all requisite operations, and where the topography is admirably adapted to the practical work of surveying. The operations at the summer school include the entire actual surveying of the department of Givil Engineering, together with such lectures, computations, and mapping as pertain to it. About six weeks' continuous attendance is required of each class between the first and second, and the second and third years, and four weeks between the third and fourth years. The school possesses an unusually full equipment of engineer's and solar transits, levels, plane tables, compasses, and all accessories and smaller instruments. A corps of special assistants for each session aid the regular officers of the school. At each session the following courses are given:

XV—Surveying between the First and Second Years—Pacing, chaining, and ranging—Farm survey—Adjustment of instruments—Angle reading by repetition—Repetition traverse—Azimuth traverse. Daily lectures, field and office work. Mr. Foyé

XVI—Surveying between the Second and Third Years—Levelling—Topographical survey with plane table—City surveys—Contour sketching. Daily lectures, field and office work. Mr. Foyé

XVII—Surveying between the Third and Fourth Years—Railroad surveying—Reconnaissance—Preliminary survey—Location—Cross-sectioning—Computations—A complete survey and location of a line two to five miles long are made with all the attendant computations requisite for placing the work under contract. Daily lectures, field and office work. Mr. Foyé

A satisfactory project or thesis is required of every candidate for the degree of civil engineer at graduation.

ELECTRICAL ENGINEERING

Francis B. Crocker, E.M., Ph.D.....*Professor*
George Francis Sever.....*Instructor*

General Statement

Of the courses offered by this department, courses II, III, VIII, XI, and XII are required of fourth-year students, candidates for the degree of electrical engineer; courses I, IV, VI, and X, of third-year students, candidates for the degree of electrical engineer; course V of third-year students, candidates for the degrees of mining engineer, civil engineer, and metallurgical engineer; and course VII of second-year students, candidates for the degree of electrical engineer. Courses XIII to XX inclusive are elective for candidates for the degrees of master of arts and doctor of philosophy.

The theoretical side of electrical engineering is treated by lectures delivered by Professor Pupin and Mr. Freedman in the department of Mechanics, under which head the various courses will be found.

See Mechanics VI, VII, VIII, IX and IXA.

Courses

I—Dynamo Practice—Principles, construction, operation, and design of dynamos and electric motors. (Dynamo Electric Machinery, Thompson.) 3 hours, first term. Professor Crocker and Mr. Sever

II—Electric Power—Transmission and distribution of electric power, including the principles and application of the direct current, single phase, and polyphase systems. 3 hours, first term. Professor Crocker

III—Electrical Engineering—Electro-metallurgy and electro-chemistry, including production of metals and chemicals, theory and practice of primary and secondary batteries. Advanced telegraphy and telephony; including submarine, autographic, printing and multiplex telegraphy, and special signalling systems; special and peculiar applications of electricity. 1 hour, first term; 3 hours, second term. Professor Crocker

IV—Electric Lighting—The design, installation, and operation of electric lighting systems and plants, including a discussion of each of the various elements and methods employed. 3 hours, second term. Professor Crocker

V—Electrical Engineering—The principles of electrical engineering and their application to general engineering. 1 hour lecture and 2 hours experimental demonstration, second term. Professor Crocker

VI—Electrical Engineering—Telegraphy and Telephony. (Pope's Modern Practice of the Electric Telegraph ; Poole's Practical Telephone Handbook) 1 hour. Professor Crocker and Mr. Freedman

VII—Elements of Electrical Engineering—General electrical principles, laws, measurement and the introduction to their applications. (Elementary Lessons in Electricity and Magnetism, Thompson.) 1 hour, first term ; 2 hours, second term. Professor Crocker and Mr. Freedman

VIII—Electric Railway—Special instruction in design, installation, and operation of the various systems of electric railways. 2 hours, second term. Mr. Sever

X—Electrical Engineering Laboratory

1. Direct current dynamos and motors. Tests of resistances, insulation, potential, current, heating, and examination of mechanical construction.

2. Determination by means of transmission and absorption dynamometers, of the losses in dynamos and motors at various loads. Electrical methods of determining the efficiency of dynamos and motors at different outputs.

3. Determination and plotting of the various characteristic curves of dynamo electric machinery. Location and remedy of faults in electrical machinery.

4. Operation of the steam-engine and the use of the steam-engine and the indicator in ascertaining the various losses in the complete system.

5. Plotting of load diagrams from the university lighting plant. Study of special machines such as arc motors and arc dynamos. Operation of arc lamps.

8 hours. Mr. Sever

XI—Electrical Engineering Laboratory

Alternating current dynamos, motors, and transformers.

1. Tests of resistances, self-induction, reactance, insulation, potential, current ; and heating of different apparatus.

2. Measurement of the various losses in alternating current apparatus such as dynamos, transformers, and motors, thus giving data for the determination of their efficiencies.

3. Determination of the characteristic curves of alternating current dynamos. Plotting of alternating current curves from dynamos, motors, and transformers by various methods, these involving the use of the telephone, dynamometers, and condensers.

5 hours. Mr. Sever

XII—Electrical Engineering Laboratory

Advanced electrical measurements and testing.

The experiments included under this heading are as follows : Calibration of measuring instruments such as ammeters, voltmeters, dynamometers, wattmeters, using ampere balances and standardized resistances. The use of the

ballistic galvanometer, the determination of the magnetic leakage and useful magnetic flux in dynamo and motors; hysteresis and permeability measurements on different qualities of iron and steel by the bar and yoke method. The use of the secohmeter in various determinations involving self-induction and capacity.

5 hours. Mr. FREEDMAN and Mr. SEVER

XIII—HISTORY OF THE DEVELOPMENT OF THE APPLICATIONS OF ELECTRICITY. Professor CROCKER

XIV—THEORY OF ELECTROLYSIS AND OF PRIMARY AND SECONDARY BATTERIES. Professor CROCKER

XV—DIRECT CONVERSION OF THE ENERGY OF FUEL INTO ELECTRICITY. Professor CROCKER

XVI—SPECIAL FORMS OF DYNAMO AND MOTOR—High frequency, high potential and unipolar. Professor CROCKER

XVII—LONG-DISTANCE TRANSMISSION OF ELECTRIC POWER. Professor CROCKER

XIX—MULTIPLEX AND AUTOGRAPHIC TELEGRAPHY. Professor CROCKER

XX—SPECIAL APPLICATIONS OF ELECTRICITY TO MINING, MECHANICAL, CIVIL, AMD METALLURGICAL ENGINEERING. Professor CROCKER

Equipment

The department of Electrical Engineering occupies six rooms—one used for lecture purposes, three for laboratories, and two for special investigations and experimental work by the officers and advanced students of the department.

The apparatus of the department naturally divides itself into three classes:

(*a*) Machinery.

(*b*) Practical apparatus and measuring instruments.

(*c*) Instruments of precision.

The machinery includes a steam-engine and complete electric-lighting plants of the three principal types, *i. e.*, arc, incandescent (direct current), and alternating currents, each of practical size. These are in addition to the regular electric-lighting plant of the University which has 1000-light capacity and is available for experiment and continuous supply of current. There are also a number of dynamos for generating direct, single phase and polyphase currents, railway and stationary motors, dynamotors and alternating-current transformers, of various sizes and types, electric-welding apparatus, electric drill-press, lathe, and tools of all kinds.

The practical apparatus consists of examples and models of apparatus used in telegraph and telephone work, and various primary, secondary, and thermo-electric batteries.

The practical measuring instruments furnish examples of almost every form of voltmeters, ammeters, and the like.

The instruments of precision comprise a fine collection of standard resistances, condensers, cells, standards of self-induction, standard ampere balances, and a standard Anthony bridge, together with numerous galvanometers, rheostats,

electrometers, electro-dynamometers, instruments for magnetic measurements, and special apparatus for investigations in alternating-current phenomena.

The department is also rapidly acquiring a very instructive museum, in which can be found examples and illustrations of the various electrical devices and materials used in the science and practice of electricity.

MECHANICAL ENGINEERING

FREDERIC R. HUTTON, C.E., Ph.D. ..... *Professor*
RALPH E. MAYER, C.E. ..... *Instructor*
IRA H. WOOLSON, E.M. ..... *Instructor*
LUTHER E. GREGORY, C.E. ..... *Assistant*
THOMAS H. HARRINGTON, C.E. ..... *Assistant*

General Statement

Special students are admitted to the courses for which previous training may have fitted them. All courses intended for undergraduates in the Schools of Applied Science may be pursued by graduates of those or other schools of like grade and standing as graduates' courses, the instruction for such persons being carried further in specialization than the time available permits to candidates for undergraduate degrees. The instruction for such advanced students will be by prescribed reading, by problems assigned, and by work in the mechanical laboratories under individual instruction. These supplementary courses will vary in difficulty with the amount of time necessary according to the needs of the individual and the subject. Experimental investigation is a special feature of such work in courses X to XVII, XIX, XXIV, and XXV.

The following statement applies to the year 1896–97 or upon removal of the University to its new site.

Courses

I—ELEMENTARY MECHANICAL DRAWING—Use of instruments, elementary projections, descriptive geometry, graphics, and sterotomy. 2 hours lectures, and 5 hours drawing academy, in the first year ; 2 hours lectures and 5 hours drawing academy in the second year. Messrs. MAYER and HARRINGTON

II—SPECIALIZED ENGINEERING DRAWING—Topographical and geological, charts and maps ; working and isometric drawing of machinery, furnaces, and structural work. Tracing and blue printing, and shop drawings. 2 hours lectures, 5 hours drawing academy, second year. Messrs. MAYER and HARRINGTON

III and IV—FIRST-YEAR SHOP-WORK—Carpentry, framing, joinery, and wood-turning, first term ; pattern-making, moulding, and foundry-work. second term. 1 hour conference for instruction and 2 afternoons shop-practice in shops of Teachers College.

V—FIRST-SUMMER SHOP-WORK — Bench-work and vise-work, chipping, filing, threading, and tapping. 100 hours in 3 weeks in June.

VI and VII—Second-year Shop-work—Forging and blacksmith work, swaging welding, and tempering, first term ; machine tool work at lathe, planer, shaper, slotter, and milling machine, second term. 1 hour conference for instruction, 3 afternoons and Saturday mornings shop-practice in shops of Teachers College.

VIII and IX — Second-summer Shop-work—Pipe-fitting, fitting and assembling, erection, and riggers' work with heavy masses. 100 hours in 3 weeks in June.

X—Properties of Materials and Alloys—Fabrication and mechanical treatment of iron, steel, and alloys ; ingot metals, steel castings, their composition, and their properties ; rustless coatings, engineers' inspections, properties of alloys. 2 hours, first term, second year. Professor Hutton and Mr. Woolson

XI—Engineering of Power Plants—Steam-engines and their mechanisms, rotary engines, the single-acting engine, the mechanical features and construction of the condensing, compound, and multiple-expansion engines. 1 hour lecture with recitation, second term. Professor Hutton

XII—The Steam-engine and its Accessories—The Power Plant continued — Engine valve-gear, details of construction, erection and setting, piping, accessories, and repairs. 3 hours lectures and recitations, first term. Professor Hutton

XIII—The Steam-boiler and its Accessories—The Power Plant concluded—Typical forms, construction, accessories, wear and tear, repairs, tests, inspection, operation, and control. 3 hours lectures with recitations, second term. Professor Hutton

XIV—Management and Tests of Boilers—Laboratory and power-house practice, arranged at convenience, by squads of students.

XV—Operation and Tests of Engines—Laboratory and power-house practice, arranged at convenience of instructors and students.

XVI—Testing Materials of Engineering—Clinical conferences and work in the laboratory with testing machines upon tensile transverse, compressive, torsional and other resistances of structural, and other materials. Afternoon hours, alternating with mechanical and electrical laboratories and drawing-rooms. Mr. Woolson

XVII—Mechanical Engineering Laboratory—Calibration of indicators tests of gauges, standardization of dynamometers, tests of efficiency of mechanisms, and losses in transmission of power. Afternoon hours, alternating with testing and electrical laboratories and drawing-room. Mr. Gregory

XVIII—Machinery and Mechanism—Motion, velocity, transmissive principles, conversion of motion, teeth of wheels, general mechanism. 2 hours lectures and recitations. Mr. Woolson

XIX—Heat and its Applications—Fuels for motive power, combustion, transfer of heat, heating surface, generation of steam, chimneys, artificial draft, smoke prevention, use of steam in engines, super-heating ; gas and air engines, combined vapor engines, ammonia and other vapor engines, air com-

pressors, refrigerating machinery. 2 hours lectures and recitations, and laboratory practice, first term. Professor HUTTON and Mr. GREGORY

XX—MOTORS OTHER THAN STEAM—Animal, water, wind, and wave motors; turbines. 1 hour lecture, first term. Professor HUTTON

XXI—DYNAMICS OF MOTORS—Work of motors, dynamometers, governors, regulators, inertia, friction, and efficiency. 1 hour lecture, second term. Professor HUTTON

XXII—MACHINE DESIGN AND DRAWING—Graphic statics of mechanism, proportion of parts of machines, shop and working drawings. 1 hour, first term, and afternoon work in drawing-room. (To be assigned.)

XXIII—VALVE-GEARING FOR ENGINES—Common valve-gear, polar diagram design, link-motions, cam-gears; variable cut-off mechanisms. 1 hour, and afternoon work in drawing-room. (To be assigned.)

XXIV—HEAT AND STEAM ENGINEERING LABORATORY—Tests upon the experimental steam-engine and air compressor and air engines; indicator and dynamometer work; determinations of heat units and water consumption, from theory and experiment. Afternoon hours, alternating with hydraulic and electrical laboratories and thesis work. (To be assigned.)

XXV—HYDRAULIC ENGINEERING AND MOTORS LABORATORY—Verification of hydraulic formulæ for friction and efflux; tests of motors and hydraulic machines. Afternoon hours, alternating with heat and electrical laboratories and thesis work. (To be assigned.)

XXVI—RAILWAY MOTIVE POWER AND MACHINERY—Types of locomotive engine, boiler, mechanism, running gear, compound locomotives, design and performance in hauling loads; accessory features to the motive power; railway machinery. 3 hours lectures, first part of first term. Mr. WOOLSON

XXVII—PUMPS, PUMPING, AND SPECIAL ENGINES—Construction, mechanisms, designs, types, valves, erection, management, efficiency, duty; special forms of steam-engine for special duty. Special course of lectures, second part of first term. Professor HUTTON

XXVIII—STEAM-ENGINE DESIGN AND ADVANCED DRAWING—2 hours, (To be assigned.)

XXIX—SHOP AND FACTORY ORGANIZATION AND MANAGEMENT—1 hour lecture. (To be assigned.)

XXX—WORK-SHOP ECONOMICS AND SPECIFICATIONS—Cost of manufacture, shop-accounts, wage-systems; specifications for economical manufacture. 1 hour lecture. (To be assigned.)

XXXI—MARINE ENGINE DESIGN—(To be organized.)

XXXII—NAVAL ARCHITECTURE—(To be organized.)

XXXIII—SHIP-BUILDING—(To be organized.)

XXXIV—MARINE AUXILIARIES—(To be organized.)

XXXV—VACATION CLASS IN MECHANICAL ENGINEERING—During the latter half of the school year visits are made to shops, factories, iron and steel works, and pumping stations, for the study of practice in these lines. The time

occupied is variable according to circumstances. The instruction is conducted by Professor HUTTON and Messrs. WOOLSON, and GREGORY. *Optional*

XXXVI—SUMMER WORK BETWEEN FIRST AND SECOND YEARS—Memoir or drawings.

XXXVII—SUMMER WORK BETWEEN SECOND AND THIRD YEARS—Memoir or drawings.

XXXVIII—SUMMER WORK BETWEEN THIRD AND FOURTH YEARS—Memoir, test, report, or special laboratory work as may be directed in each case by the professor of Mechanical Engineering.

XXXIX—GRADUATION THESIS.

Equipment

The department of Mechanical Engineering both has its own special equipment, and also enjoys the admirable and complete equipment of other departments for the use of its students.

THE WORK-SHOPS are to be located for the present in the Macy Manual Arts Building of the Teachers College, 120th Street. For wood-working there are twenty carpenter's benches with their kits of tools, and for pattern-making and turning there are twenty speed-lathes, the usual saw benches and planers. For forge and blacksmith work there are twenty Buffalo forges with anvils and tools. For metal-working there are eleven engine-lathes with swing from twelve inches to twenty inches, planers, shapers, drill-presses, and a universal milling machine. The department has also a specially fine expert's lathe, the gift of friends to the University, with unusual attachments in the way of chucks, dividing head, and the like, and a complete outfit of tools for construction, pipe-fitting, and repair.

THE TESTING LABORATORY is equipped with high grade testing machines for tensile, transverse, torsion, and compression tests. Their designs are of diverse types to give wide experience in handling, and they are fitted with the best and newest appliances for observing and recording deformations of test-pieces. The Emery Testing Machine of 150,000 pounds capacity is a marvel of accuracy and sensitiveness, and is used as a standard of reference. Others of 50,000 pounds and 100,000 pounds capacity respectively, are of the usual commercial types, and include Keep's series. Practical and scientific tests and investigations, such as arise in a great industrial centre like New York City, are continually in progress at the side of the work of the students.

THE MECHANICAL ENGINEERING LABORATORY is well supplied with dynamometers, both of transmission and absorption types, with oil-testing appliances, speed-recorders, tachometers, weighing and measuring apparatus, anemometers, gauge testers, and the like, and representative machines and mechanisms for calibration and tests of efficiency.

THE HEAT AND STEAM ENGINEERING LABORATORY has an extensive series of indicators, with appliances for calibrating and standardizing them, test-gauges, thermometers, calorimeters, pyrometers, and apparatus for boiler and engine tests. A full line of boiler-feed-injectors is mounted for display and

experiment. Steam-engines of various types, steam-pumps, a ten horse-power De Laval steam turbine, hot-air and gas engines are at hand, and surface-condensing appliances. The department has the distinction that one of its experimental steam-engines is to be a cross-compound two-stage air compressor, the gift to the University of the Ingersoll-Sergeant Drill Co. in 1897. The cross-compound steam-end of the engine with re-heater combined with the cross-compound air-end with inter-cooler, makes this a most complete example of applications of thermodynamic theory to practice, and at the same time gives a flexibility as to imposable conditions of operation which make the machine a unique and most admirable piece of laboratory apparatus. The compressed air can also be used in motors in such way that the transformations of energy can be followed out in detail, and a wide range of tests becomes practicable.

The students will also have opportunity to work in the power-plants of the University, which add refrigerating appliances, ventilating machinery, and large scale motors to the regular departmental equipment. Students are expected to learn the actual detail of boiler-firing and engine-running by serving as helpers in the power-house as a feature of their laboratory work. The metallurgical collection also furnishes pyrometers, calorimeters, and other apparatus for heat determinations.

The Hydraulic Motors Laboratory is operated in part in conjunction with the work of the hydraulic laboratory of Civil Engineering and contains necessary tanks, weir-notch equipment, gauges, current-meters, water-meters, and the motors for test and experiment. Constant pressure is secured by air-pressure upon the water in a closed tank, thus doing away with a stand-pipe. For heavier pressures, above 100 pounds a square inch, an adjustable accumulator is used. Pumps of large capacity give the necessary quantity of water for orifice tests and other drill in hydraulic engineering. The equipment of this laboratory is to be presented as a gift to the University as a memorial of the late Henry R. Worthington, of this city.

The Drawing Academies are splendidly lighted and of very large extent, and are fitted not only with the best forms of drawing tables and furniture, but also with extensive collections of patterns, models, and illustrative drawings, blue prints, photographs, and prints, which are useful both as copies, and for training in design. Sectional models of actual machines and structural material are abundant, and for the study of projection, stone-cutting, and warped surfaces, an unexcelled collection is at the service of students. A set of the Ollivier models, in which the elements of surfaces are represented by tense-threads, is a notable feature of these collections. In connection with the Drawing Academy is a room for blue printing and other solar work, and a photographic dark room.

The Cabinets or Museum Collections of Mechanical Engineering exhibit not only models of mechanical movements, mechanisms, and gearing, but are specially rich in material which has failed in service and under stress. Some of this material is unique, and serves a most useful purpose. Specimens of apparatus and materials of practice are also abundant.

LECTURE AND CLASS-ROOM ILLUSTRATION is effected by extensive use of material from the collections and of photographs exhibited as lantern slides by projection in an illuminated room, by drawings and blue prints, and by electrotype prints and wall-diagrams. Great service is made also of type-written monographs and notes manifolded and distributed to the students.

Summer and Vacation Work

To derive the advantages possible from continuous work in the shop, two summer classes are maintained, each covering about one hundred working hours, from commencement week until the first of July. If necessary another similar term will be arranged for September. These form parts of the regular shop-work course of Mechanical Engineering, but are also intended to permit students from other schools, where these facilities are lacking, to comply with the requirements of the regular course by extra application and overtime work.

During the session, and on occasional holidays, students are given opportunities to visit engineering works, machine shops, factories, and industrial establishments in the city and its environs. More elaborate excursions are arranged for the later years to special places or districts, under the supervision of the professors or instructors. The summer between third and fourth year is intended to be specially used for work in connection with the final thesis, or in tests, or in actual running of machinery.

English

ENGLISH AND LITERATURE

THOMAS RANDOLPH PRICE, A.M., LL.D. . . . . *Professor*
ABRAHAM VALENTINE WILLIAMS JACKSON, Ph.D. . . . *Professor*
GEORGE EDWARD WOODBERRY, A.B. . . . . *Professor*
BRANDER MATTHEWS, A.M., LL.B. . . . . *Professor*

ENGLISH LANGUAGE AND LITERATURE

Courses II, III, IV, XI, XII, XIII, XIV, XV, and XVI are open to Seniors in Columbia College and to university students. They are intended for candidates for the degrees of bachelor of arts, and may not be counted toward the degree of master of arts or doctor of philosophy.

Courses III, IV, V, VI, VII, VIII, IX, X, XIV, and XV are open to women on the same terms as to men.

Women wishing to enter any of the courses as special students or as candidates for a degree must register through Barnard College.

Courses IV, XIV, and XV are open to auditors.

Courses

II—ANGLO-SAXON LANGUAGE AND HISTORICAL ENGLISH GRAMMAR. 2 hours. Professor JACKSON

III—ANGLO-SAXON LITERATURE: POETRY AND PROSE. 2 hours. Professor PRICE

IV—Chaucer: Language, Versification, and Method of Narrative Poetry. Text: Skeat's edition of Chaucer. 2 hours. Professor Price

Not given in 1896–7

Courses III and IV are given in alternate years.

V—English Language and Literature of the Eleventh, Twelfth, and Thirteenth Centuries: Reading of authors, with investigation of special questions and writing of essays. 2 hours. Professor Price

VI—English Language and Literature of the Fourteenth Century Exclusive of Chaucer, and of the Fifteenth Century: Reading of authors, with investigation of special questions and writing of essays. 2 hours. Professor Price

Not given in 1896–7

VII—English Language and Literature of the Sixteenth Century. Reading of authors, with investigation of special questions and writing of essays. 2 hours. Professor Price

Not given in 1896–7

Courses V, VI, and VII, designed for the careful study of the language and literature of the early period, will be given successively in 1896–7, 1897–8, and 1898–9.

VIII—Anglo-Saxon Prose and Historical English Syntax. Text: Prose in Sweet, Bright, and Grein. Investigation of special questions and writing of essays. 2 hours. Professor Price

IX—Anglo-Saxon, Archaic and Dialectic. 1 hour, second term. Professor Jackson

X—English Verse-Forms; Study of their historical development. 2 hours. Professor Price

XI—The History of English Literature from 1789 to the death of Tennyson: Lectures. 3 hours. Professor Woodberry

Not given in 1896–7

XII—The History of English Literature from 1660 to 1789: Lectures. 3 hours. Professor Woodberry

Not given in 1896–7

XIII—The History of English Literature from the birth of Shakspere to 1660, with special attention to the origin of the drama in England and to the poems of Spenser and Milton. 3 hours. Professors Jackson and Woodberry

Courses XII and XIII are given in alternate years.

XIV—Pope: Language, Versification, and Poetical Method. Text: Ward's edition of Pope's Works. 2 hours. Professor Price

XV—Shakspere: Language Versification, and Method of Dramatic Poetry. Text: Cambridge Text of Shakspere. 2 hours. Professor Price

Not given in 1896–7

Courses XIV and XV are given in alternate years.

XVI—American Literature. 2 hours. Professor Brander Matthews

To be given in 1897–8

English XVI and Literature I will be given in alternate years.

LITERATURE

GEORGE EDWARD WOODBERRY, A.B.....*Professor*
BRANDER MATTHEWS, A.M., LL.B.....*Professor*
GEORGE RICE CARPENTER, A.B.....*Professor*

General Statement

Courses I and II are open to Seniors in Columbia College and to university students. They may not be counted for the degree of master of arts or doctor of philosophy. The remaining courses are open only to students who have taken the degree of bachelor of arts or its equivalent.

Courses VII, VIII, IX are open to women who are candidates for the degree of master of arts or doctor of philosophy.

Courses

I—THE HISTORY OF MODERN FICTION. 2 hours. Professor BRANDER MATTHEWS

Given in 1896–7 and each alternate year thereafter.

II—THE THEORY, HISTORY, AND PRACTICE OF CRITICISM, with special attention to Aristotle, Boileau, Lessing, and English and later French writers, with a study of the great works of the imagination. 3 hours. Professor WOODBERRY

Literature I and English XVI will be given in alternate years.

III—EPOCHS OF THE DRAMA: GREEK, LATIN, SPANISH, ENGLISH, FRENCH, GERMAN, SCANDINAVIAN. 2 hours. Professor BRANDER MATTHEWS

Alternates with Course IV

Not given in 1896–7

IV—DRAMATISTS OF THE NINETEENTH CENTURY. 2 hours. Professor BRANDER MATTHEWS

Given in 1896–7 and each alternate year thereafter.

V—MOLIÈRE AND ENGLISH COMEDY. 1 hour. Professor BRANDER MATTHEWS

Alternates with Course VI

Not given in 1896–7

VI—THE EVOLUTION OF THE ESSAY. 1 hour. Professor BRANDER MATTHEWS

Given in 1896–7 and each alternate year thereafter.

VII—STUDIES IN LITERATURE, MAINLY CRITICAL. Selected works, in prose and verse, illustrating the character and development of national literatures. 3 hours. Conferences. Professor WOODBERRY

VIII—STUDIES IN LITERATURE, MAINLY HISTORICAL. Original research. Conferences. Subjects to be announced. 3 hours. Professor WOODBERRY

IX—TYPES OF MEDIÆVAL AND RENAISSANCE LITERATURE. 3 hours. Professor G. R. CARPENTER

Courses VII, VIII, and IX may each be taken for two successive years.

RHETORIC AND ENGLISH COMPOSITION

GEORGE RICE CARPENTER, A.B. ..... *Professor*
WILLIAM TENNEY BREWSTER, A.M. ..... *Tutor*
GEORGE C. D. ODELL, Ph.D. ..... *Tutor*
RALPH CURTIS RINGWALT, A.B. ..... *Assistant*

Courses

A—RHETORIC AND ENGLISH COMPOSITION—Carpenter's "Exercises in Rhetoric and English Composition." Recitations, weekly themes; in the second term lectures on certain English and American authors as models of style. 3 hours. Professor G. R. CARPENTER, Mr. BREWSTER, and Dr. ODELL

Prescribed for freshmen in the College.

B—PRACTICE IN VARIOUS KINDS OF ENGLISH COMPOSITION—Fletcher's "Introduction to Theme-Writing." Fortnightly essays, lectures, and consultations. 1 hour. Mr. BREWSTER and Dr. ODELL

Prescribed for sophomores in the College. Pre-requisite: Course A.

C—ARGUMENTATIVE COMPOSITION—Four essays, consultations. Mr. RINGWALT

Prescribed for juniors in the College. Pre-requisite: Course B.

I—ENGLISH COMPOSITION—Daily themes and fortnightly essays, lectures, and consultations. 2 hours, first term. Professor G. R. CARPENTER

Open as an elective to juniors and seniors in the College. Pre-requisite: Course B.

II—ENGLISH COMPOSITION—Lectures and discussions in regard to style: essays and other written work. 2 hours, second term. Professor G. R. CARPENTER.

Open as an elective to juniors and seniors in the College. Pre-requisite: course I.

III—ENGLISH COMPOSITION (Advanced Course)—The structure of the thesis; the history of rhetoric; methods of teaching rhetoric and English composition. 2 hours. Professor G. R. CARPENTER

Open as an elective to students who have taken course II or its equivalent.

IV—ELOCUTION—Lectures and exercises. 2 hours. Mr. RINGWALT

Open to sophomores, juniors, and seniors in the College. May be taken only as an optional course, and cannot be counted for a degree.

V—THE ART OF ENGLISH VERSIFICATION—1 hour. Professor BRANDER MATTHEWS

Open to seniors in the College and to university students.

VI—ARGUMENTATIVE COMPOSITION—Lectures, briefs, essays, and oral discussions. 3 hours, counting as a two-hour course. Mr. RINGWALT

Open only to juniors in the College who have passed in course B with a grade of at least C.

French

(See page 134)

Genito-Urinary and Venereal Diseases

ROBERT W. TAYLOR, M.D. ..... *Clinical Professor*
JAMES R. HAYDEN, M.D. ..... *Chief of Clinic*
WILLIAM C. GILLEY, M.D. ..... *Clinical Assistant*
EDMOND Y. HILL, M.D. ..... *Clinical Assistant*
JOHN B. STEIN, M.D. ..... *Clinical Assistant*
E. L. WILLIAMSON, M.D. ..... *Clinical Assistant*
W. B. BROUNER, M.D. ..... *Clinical Assistant*
J. E. SHRADY, M.D. ..... *Clinical Assistant*

Courses

I—VENEREAL AND GENITO-URINARY DISEASES—Clinical lectures at the Vanderbilt Clinic. 1 hour. Professor TAYLOR

Required, in the third year, of candidates for the degree of M.D.

II—PRACTICAL INSTRUCTION AT THE VANDERBILT CLINIC IN THE DIAGNOSIS AND TREATMENT OF VENEREAL AND GENITO-URINARY DISEASES—12 lessons for each student. Dr. HAYDEN

Required, in the third year, of candidates for the degree of M.D.

III—HOSPITAL CLINICS IN VENEREAL AND GENITO-URINARY DISEASES—Bellevue Hospital, Tu. at 3 P.M. throughout the academic year. Professor TAYLOR. City Hospital, Blackwell's Island (formerly Charity Hospital), W. at 2 P.M., April and May. Dr. HAYDEN

The Bellevue Hospital Clinics are required, in the third year, of candidates for the degree of M.D.

Geology

JAMES FURMAN KEMP, A.B., E.M. ..... *Professor*
CHARLES ARTHUR HOLLICK, Ph.B. ..... *Tutor*
GILBERT VAN INGEN ..... *Curator of the Geological Collections*

Courses

I—GENERAL GEOLOGY—First term, physical geology, with practical work in the rock collections under the lithological part of the subject; second term, stratigraphical and historical geology, involving laboratory work with type fossils and collections illustrating the geology of the United States. Text-book: Le Conte's Elements of Geology. 2 hours lectures, including laboratory work. Mr. HOLLICK

Elective for juniors and seniors in the College.

II—GENERAL GEOLOGY—A more elaborate discussion of the subjects treated in course I. Text-book: Dana's Manual of Geology. Kemp's Handbook of Rocks. 3 hours lectures. Professor KEMP

Required of all third-year students of the Schools of Applied Science in the courses of Mining, Metallurgy, Civil Engineering and Chemistry. Elective to seniors in the College who have not had course I.

III—Economic Geology—First term, discussion of the general features and formation of ore bodies, followed by a description of the deposits of the ores of iron, copper, lead, zinc, silver, gold, and the lesser metals, with especial reference to North America ; second term, a description of the distribution and occurrence of coal, petroleum, natural gas, asphalt, building stone, water supply, salines, and minor minerals. Text-book : Kemp's Ore Deposits of the United States, and lecture notes privately printed. 3 hours lectures and conferences. Professor Kemp

Required of all fourth-year students of the Schools of Mines and Chemistry. That portion of the course relating to building stones is required of fourth-year students in the School of Architecture. Elective for seniors in the College who have had course I or II or an equivalent. Open, with two additional hours weekly of collateral reading, to candidates for the degrees of A.M. and Ph.D. whose minor subject is Geology.

IV—Petrography—A short course in the microscopic study of rocks. Follows Mineralogy VI. 2 lectures and one afternoon two months of the second term. Professor Kemp

Required of second-year students in the School of Mines.

VI—Petrology—A discussion of the origin, microscopic structure, and mineralogical composition of the crystalline rocks, and of metamorphism. Pre-requisite : Optical Mineralogy. 2 hours lectures, 4 hours or more laboratory. Professor Kemp

Open to candidates for the degrees of A.M. and Ph.D. whose major or minor subject is Geology.

VII—Invertebrate Palæontology—A general description of invertebrate fossils, following the biological sequence. Pre-requisite : Biology I. Text-books : Zittel's Handbuch der Palaeontologie, vol. i, and Nicholson's Manual of Palæontology. 2 hours lectures, 4 hours or more laboratory. Mr. van Ingen

Open to candidates for the degrees of A.M. and Ph.D. whose major or minor subject is Geology. Not offered in 1896–97.

VIII—Comparative Geology—A comparative description and study of the geological formations of the globe, in their areal distributions and taxonomy. Text-books : Correlation Bulletins of the U. S. Geological Survey, Kayser's Text-book of Comparative Geology, and the manuals of Geikie, Dana, and De Lapparant. 2 hours lectures and at least 4 hours reading and laboratory. Professor Kemp for the crystalline and pre-cambrian rocks. Mr. van Ingen for the fossiliferous.

Open to candidates for A.M. and Ph.D. whose major or minor subject is Geology.

IX—Palæobotany—Study of fossil plants, following the biological sequence. Pre-requisite : Botany I. Text-book : Zittel's Handbuch der Palaeontologie, vol. ii, and Solms-Laubach's Palæophytology. 1 hour lecture or conference, 4 hours laboratory or reading for two years. Mr. Hollick

Open to candidates for the degrees of A.M. and Ph.D. whose major or minor subject is Geology.

X—As a thesis subject which will furnish a major course for the concluding year of study for the degree of doctor of philosophy some such subject as the following will be assigned :

(a) Petrography of the Serpentines in the Vicinity of New York ; (b) Geology of some restricted area, in Eastern North America ; (c) Investigation of some Series of Ore Deposits ; (d) Study of the Flora or Fauna of certain Geological Horizons, with Field Work. The work will be done under the direction of that officer of the department who has given the subject special attention.

Summer School

XI—The Trustees of the University have made an appropriation for a summer school in geology, which defrays the expenses of a small squad of advanced students for about one month each summer, with the professor of Geology. During the college year, excursions are offered to points of geological interest near New York, on all Saturdays and holidays of the fall and spring. Few other localities afford so extensive and so accessible exposures as the vicinity of New York.

Equipment

The department of Geology has its museum and lecture room on the top floor of the Fourth Avenue building. The museum affords exceedingly complete illustrative series of specimens in stratigraphical and economic geology and in palæontology. It is open from eight to six to students and visitors. The collections of fossil fish and fossil plants are especially rich.

The laboratories and offices comprise the parlor and basement floor of the dwelling house No. 52 East 49th Street, opposite the University. The equipment includes very complete collections of rocks and thin sections, some thousands in all, for work in microscopic petrography, eight petrographical microscopes, micro-spectroscope, micro-camera, cameras for out-door photography, and grinder for making thin sections. The department has also placed with it the geological library of the late Professor Newberry, containing many rare volumes and pamphlets.

The University has an arrangement with the American Museum of Natural History which secures for advanced students especial privileges in its collections. As these contain among others the valuable and unique collection of Palæozoic fossils made by James Hall, the privilege is of especial consequence to students of palæontology.

Germanic Languages and Literatures

WILLIAM HENRY CARPENTER, Ph.D.....*Professor of Germanic Philology*
CALVIN THOMAS, A.M.....*Professor of Germanic Languages and Literatures*
EUGENE HOWARD BABBITT, A.B.....*Instructor*
WILLIAM ADDISON HERVEY, A.M.....*Tutor*

General Statement

The department, as its name implies, offers instruction, not only in German, but in the kindred languages and literatures of the other members of the Germanic group. In German the aim of the instruction is primarily to enable students to use the modern language with facility in reading, writing, and, as

far as possible, in speaking, and to acquaint them with the masterpieces of German literature. Opportunity is also given to acquire a reading knowledge of the languages of the other Germanic nations, and to study their literatures. Parallel courses are arranged in such a way that while both language and literature are combined in the earlier courses, either side may be subsequently emphasized at will. Courses are also given in the philology of the whole Germanic group. Practical work supplementary to the lectures is given in the seminars.

The courses offered by the department are grouped under the following heads: German, Gothic, Scandinavian, and Germanic Philology.

Course A is required of freshmen in the College who have taken the entrance examination in German; B, of sophomores who have taken A, unless they elect Chemistry as a substitute; I, II, and III are open as electives to juniors; IV, V, and VIII to specially qualified juniors; A, B, I, II, III, IV, V, VI, VII, VIII, IX, and X to all university students. The seminar is open to advanced students only. The elementary course in German is an optional intended for students who desire to begin German. Other optional courses are Sight Reading in German, Scientific German, and German Conversation.

Courses in German

ELEMENTARY COURSE—Thomas, *Practical German Grammar;* Harris, *German Reader.* 3 hours. Mr. HERVEY

Intended for students, preferably in the freshman or sophomore year, who have not studied German before entering college. Members of this class will be prepared to join German A at the beginning of the second year. Cannot be counted for a degree.

A—GRAMMAR, READING, AND COMPOSITION—Thomas, *Practical German Grammar;* Whitney, *Gerstäcker's Ihrrfahrten; Heine's Harzreise;* Wolstenholme, *Riehl's Culturgeschichtliche Novellen;* von Jagemann, *German Prose Composition.* 3 hours. Mr. BABBITT

Prescribed for freshmen who have passed the entrance examination in German.

B—GOETHE, SCHILLER, AND LESSING, GENERAL INTRODUCTION TO THE STUDY OF GERMAN LITERATURE—Buchheim, *Lessing's Minna von Barnhelm;* Hamann, *Lessing's Laocoön;* Carruth, *Schiller's Wallenstein;* Hewitt, *Goethe's Hermann und Dorothea.* 3 hours. Mr. HERVEY

Prescribed for sophomores who have taken A in their freshman year, unless Chemistry I is substituted in its place.

I—GOETHE'S FAUST: FIRST AND SECOND PARTS WITH COMMENTARY—2 hours. Professor THOMAS

Open to students who have taken B or its equivalent.

II—HISTORY OF GERMAN LITERATURE—Lectures. 2 hours. Professor THOMAS

Open to students who have taken B or its equivalent

III—HISTORICAL PROSE, CHIEFLY FROM FREYTAG'S BILDER AUS DER DEUTSCHEN VERGANGENHEIT—Reading at sight. 2 hours. Mr. BABBITT

Open to students who have taken B or its equivalent.

IV—History of the New High German Language—Lectures. 2 hours. Professor W. H. Carpenter

Open also, with the permission of the Dean, to specially qualified juniors.

V—Middle High German—Wright, *Middle High German Primer;* Paul, *Mittelhochdeutsche Grammatik;* Weinhold, *Mittelhochdeutsches Lesebuch.* 2 hours. Professor Thomas

Open also, with the permission of the Dean, to specially qualified juniors.
Not given in 1896–97.

Optional Courses in German

None of these courses may be counted for a degree.

Sight Reading—2 hours. Mr. Babbitt

Open to students who have passed the entrance examination in German and to all university students.

Scientific German—Books: Gore, *German Science Reader.* 2 hours. Mr. Hervey

Open to all students who have passed the entrance examination in German and to all university students.

German Conversation—2 hours.

Open to students who have passed the entrance examination in German and to all university students.

Course in Gothic

VI—Gothic—Wright, *Primer of the Gothic Language;* Braune, *Gothic Grammar;* Bernhardt, *Die gotische Bibel.* 2 hours, second term. Professor W. H. Carpenter

Courses in Scandinavian

VII—Icelandic Advanced Course: Noreen, *Altnordische Grammatik;* Jonsson, *Eddalieder;* Sijmons, *Die Lieder der Edda;* Gering, *Glossar zu den Liedern der Edda*—2 hours. Professor W. H. Carpenter

VIII—History of Scandinavian Literature: Lectures. First term: Old Norse Literature. Professor W. H. Carpenter. Second term: Modern Danish-Norwegian Literature—2 hours. Professor Thomas

Course in Germanic Philology

IX—Elements of Comparative German Grammar—Lectures and exercises. First term: Phonology. Second term: Morphology. 2 hours. Professor W. H. Carpenter
Not given in 1896–97.

Seminar

First term: The beginnings of German Romanticism. Second term: Notker and his School—2 hours. Professors W. H. Carpenter and Thomas

Greek

HENRY DRISLER, LL.D. ..... *Jay Professor (Emeritus)*
EDWARD DELAVAN PERRY, Ph.D. ..... *Jay Professor*
JAMES RIGNALL WHEELER, Ph. D. ..... *Professor*
CLARENCE HOFFMAN YOUNG, Ph.D. ..... *Instructor*
JAMES DENNISON ROGERS, Ph.D. ..... *Assistant*

General Statement

Courses I, II, III, IV, V, VI, VII, VIII, and IX are open to seniors in Columbia College and to university students; course X and the Seminar are open to advanced students only. Course A is prescribed for freshmen in Columbia College; course B, for sophomores, unless Chemistry be substituted for it; courses I and II are elective for juniors.

Courses A, B, I, and II may not be counted toward the degrees of master of arts and doctor of philosophy.

All the courses in this department except A, B, I, and II are open to women on the same terms as to men. Course II is given also at Barnard College, and is there open to women graduates. Women wishing to enter any of the courses, as candidates for a degree or as special students, must register through Barnard College.

Courses

A—LYSIAS (Morgan's), Greek prose composition—3 hours first term; HOMER (Perrin's *Odyssey*, Books I–IV), Greek prose composition—3 hours second term. Dr. YOUNG and Dr. ROGERS

B—SOPHOCLES, AJAX (Jebb's); EURIPIDES, MEDEA (Allen's). First term.

PLATO, PROTAGORAS (Towle's); ARISTOPHANES, CLOUDS (Humphreys'). Greek prose composition, optional. Second term.

For private reading in the course of the year, with reports at stated intervals: Euripides, Alcestis (Earle's); Plato, Apology (Dyer's)—3 hours. Professor WHEELER and Dr. YOUNG

I—SOPHOCLES, ELECTRA (Jebb's), and ÆSCHYLUS, CHOEPHORÆ (Sidgwick's). First term.

SELECTIONS FROM THUCYDIDES. Greek prose composition, optional—3 hours. Second term.

For private reading in the course of the year, with occasional conferences with the instructor: Æschylus, Agamemnon (Sidgwick's), or Prometheus (Wecklein's). Professor WHEELER and Dr. YOUNG

II—RAPID READING OF SELECTIONS FROM HOMER, HESIOD, AND THEOCRITUS. Occasional lectures in both terms—2 hours. Professor PERRY

III—LECTURES ON GREEK LITERATURE—With readings. Part II, Prose. 2 hours lectures, 1 hour reading. Professor WHEELER

Open also, with permission of the Dean and the professor, to specially qualified juniors.

IV—GREEK TESTAMENT, GOSPELS AND ACTS—2 hours. First term. Dr. YOUNG

V—Greek Testament, Epistles—2 hours. Second term. Dr. Young

VI—Pindar, the Odes and Fragments—With lectures on the history of Greek lyric poetry, and readings from the pre-Pindaric poets. 2 hours. Professor Perry

VII—Readings from Pausanias—With illustrated lectures on the monuments of Olympia and Attica. 2 hours. Professor Wheeler and Dr. Young

VIII—Manners and Customs of the Ancient Greeks—2 hours. Dr. Young

IX—Introduction to Greek Archæology—1 hour. Professor Wheeler and Dr. Young

X—Greek Dialects, Part II (Æolic and Ionic)—1 hour. First term. Professor Perry

Seminar—First term: interpretation of the Ion of Euripides. Professor Wheeler

Second term: discussion of selected topics in Greek Grammar, chiefly morphological—2 consecutive hours, once fortnightly. Professor Perry

Equipment

The department is well equipped with maps, plans, and models. It possesses a large collection (to which important additions have recently been made) of photographs and photographic reproductions of Greek monuments, localities, and sculpture, books of illustrations, lantern slides, a few casts, and electrotypes, for the illustration of ancient monuments, art, and daily life, and these are continually drawn upon whenever opportunity offers in reading or lectures, that the literature and art may each complement the other. The Avery Collection of the library, with its richly illustrated works on art and archæology, as well as architecture, offers an unusual opportunity for further study on these subjects, and forms an invaluable subsidiary to the department. This is again reinforced by the facilities offered through the arrangement between the University and the Metropolitan Museum of Art, by which students of this University are granted free access to all the museum collections for study and comparison. The department also possesses a special library of selected books, which are placed at the disposal of university students; and the general library contains all the important serial publications, issued abroad and at home, in the field of philology and archæology. In Greek epigraphy its collection is almost complete. This is supplemented in the department by an extensive system of "squeezes" from the marbles in many parts of Greece and the British Museum.

Courses in New Testament Greek at the Union Theological Seminary

These courses may count as *part* of the work required for the degrees of master of arts and doctor of philosophy at Columbia University; but students who intend to avail themselves of this privilege must come to an understanding with the Dean of the School of Philosophy of Columbia University with regard to equivalence of courses and additional work required, at the time of registering themselves, or of renewing their registration, as candidates for a degree.

Gynecology

GEORGE MONTGOMERY TUTTLE, M.D. ..... *Professor*
GEORGE W. JARMAN, M.D. ..... *Chief of Clinic and Instructor*
W. L. STONE, M.D. ..... *Instructor*
E. H. L. MCGINNIS, M.D. ..... *Electro-Therapeutist*
B. W. STIEFEL, M.D. ..... *Clinical Assistant*
CHARLES I. PROBEN, M.D. ..... *Clinical Assistant*
JOHN M. KENNEDY, M.D. ..... *Clinical Assistant*
E. P. MALLETT, M.D. ..... *Clinical Assistant*
J. V. D. YOUNG, M.D. ..... *Clinical Assistant*
J. H. BURTENSHAW, M.D. ..... *Clinical Assistant*
G. H. MALLETT, M.D. ..... *Clinical Assistant*
W. G. LYLE, M.D. ..... *Clinical Assistant*

Courses

I—THE PRINCIPLES AND PRACTICE OF GYNECOLOGY—Didactic lectures. 3 hours from March 15th to the end of the academic year. Professor TUTTLE

Required, in the second and third years, of candidates for the degree of M.D.

II—CLINICAL INSTRUCTION AT THE VANDERBILT CLINIC—1 hour. F. at 3 P.M. Professor TUTTLE

Required, in the third year, of candidates for the degree of M.D.

III—PRACTICAL INSTRUCTION IN DIAGNOSIS, TREATMENT, AND THE USE OF INSTRUMENTS—6 lessons for each student, at the Vanderbilt Clinic. Dr. JARMAN and Dr. STONE

Required, in the third year, of candidates for the degree of M.D.

IV—HOSPITAL CLINICS IN OPERATIVE GYNECOLOGY—Roosevelt Hospital, McLane Operating Theatre. 6 exercises for each student, Tues., Thurs., and Sat., at 2.30 P. M.

Required, in the third year, of candidates for the degree of M.D.

The McLane Operating Theatre of the Roosevelt Hospital

This is upon the hospital grounds, immediately opposite the College of Physicians and Surgeons, and is one of the most thoroughly equipped buildings in this country for instruction in the surgery of gynecology.

The cases upon which operations are demonstrated are taken from the gynecological wards of the Roosevelt Hospital, which are under the exclusive direction of the professor of Gynecology, and the cases in which are all available for the instruction given by him.

History and Political Philosophy

JOHN WILLIAM BURGESS, Ph.D., LL.D. ..... *Professor*
HERBERT LEVI OSGOOD, Ph.D. ..... *Professor*
WILLIAM ARCHIBALD DUNNING, Ph.D. ..... *Professor*
JAMES HARVEY ROBINSON, Ph.D. ..... *Professor*
HARRY ALONZO CUSHING, Ph.D. ..... *Tutor*
FREDERIC BANCROFT, Ph.D. ..... *Lecturer*
GEORGE LOUIS BEER, A.M. ..... *Prize Lecturer*
WILLIAM ROBERT SHEPHERD, Ph.D. ..... *Prize Lecturer*

General Statement

The two groups of courses in this department, history and political philosophy, are intended partly for undergraduates and partly for those seeking the higher degrees. Course A is required of sophomores in the College, and course B for juniors. Course V is elective for juniors only. For university students who desire a general view of history, either as an element in liberal culture or as preliminary to special work in law or political science, the courses particularly recommended are VII, VIII, XV, XXIII, and XL. These courses are open to seniors in the College and to other candidates for the degree of A.B. Courses XXIV and XLII are open only to advanced students who are qualified to do special detailed work in the respective subjects. Attention is particularly called to the following courses, which, while given in other departments, deal with subjects which constitute an integral part of the domain of history: history of European law; general history of diplomacy; history of American diplomacy; and the historical courses in the department of Economics and Social Science.

Courses in History

A (I)—MEDIÆVAL AND MODERN HISTORY—Recitations on Myer's *Outlines*, with supplementary lectures. 2 hours. Dr. CUSHING

B (II)—EUROPEAN HISTORY SINCE 1815—Fyffe's *History of Modern Europe*; lectures, reading, and reports. 2 hours, first term. Professor DUNNING and Dr. CUSHING

V—AMERICAN HISTORY—Recitations, reading, and reports. 3 hours. Professor DUNNING

VII—MIDDLE AGES AND THE RENAISSANCE—Lectures and private reading. 2 hours, first term. Professor ROBINSON

VIII—THE SIXTEENTH CENTURY TO THE PEACE OF AUGSBURG—Lectures and private reading. 2 hours, second term. Professor ROBINSON

IX—POLITICAL HISTORY OF EUROPE, FROM THE PEACE OF AUGSBURG TO THE PEACE OF WESTPHALIA (1555–1648)—Lectures and outside reading. 2 hours, first term. Professor ROBINSON

Given in 1896–97, and alternate years thereafter.

X—The Period of Louis XIV, and the Antecedents of the French Revolution—Lectures and required reading of De Tocqueville's *Ancien Régime* and Sorel's *Europe et la Révolution*, Vol. I. 2 hours, second term. Professor Robinson

Given in 1896–97, and alternate years thereafter.

XI—Europe and the French Revolution, 1789–1815—Lectures and outside reading. 2 hours, first term. Professor Robinson

Given in 1897–98, and alternate years thereafter.

XIV—Seminar in Modern European History—2 hours. Professor Robinson

XV—Political and Constitutional History of England—Lectures and private reading. 2 hours. Professor Osgood

XVI—Development of the French Monarchy—Lectures. 2 hours, second term. Mr. Beer

XVII—Rise of the Holy Roman Empire—Lectures. 2 hours, second term. Dr. Shepherd

XIX—Early Church History, A.D. 100–311—2 hours. Given at the Union Theological Seminary.

XX—Mediæval Church History, from the time of Constantine to the Reformation—2 hours. Given at the Union Theological Seminary.

XXI—Modern Church History; the Reformation and Counter-reformation—2 hours. Given at the Union Theological Seminary.

XXIII—Political and Constitutional History of the United States—Lectures and private reading. 2 hours. Professor Burgess

XXIV—Political History of the Colonies and of the American Revolution—Investigation course. 2 hours. Professor Osgood

XXV—The United States during Civil War and Reconstruction—Lectures and private reading. 2 hours, second term. Professor Dunning

XXVII—American Church History—2 hours. Given at the Union Theological Seminary.

XXVIII—History of the United States from 1849 to 1861.—Lectures. 2 hours, first term. Dr. Bancroft

XXIX—Seminar in Early American History—1 hour. Professor Osgood

Courses in Political Philosophy

XL—General History of Political Theories—Lectures, with references to Janet, *Histoire de la Science Politique;* Bluntschli, *Geschichte der neueren Staatswissenschaften;* and Pollock, *History of the Science of Politics* 2 hours. Professor Dunning

XLI—American Political Philosophy—Assigned reading, essays, and discussions. 1 hour (or 2 hours each alternate week). Professor Dunning

XLII—Seminar in Political Philosophy—1 hour. Professor Dunning

Equipment

The department employs in its work the best German historical maps, and one of the four largest relief globes ever made. In the special library of political science, numbering 60,000 volumes, are to be found all the most valuable works for either general reading or special research ; and this is supplemented by the rich collections of the Astor and Lenox Libraries as well as those of the Bar Association and the New York and Long Island Historical Societies, all of which are readily accessible to students of the department. Under the auspices of the Academy of Political Science, to which advanced students are eligible as members, opportunities are given for the discussion of questions of interest as presented in papers by specialists.

Indo-Iranian Languages

(See page 116)

Italian

(See page 137)

Laryngology

(Including Diseases of the Larynx, Pharynx, and Nasal Passages)

GEORGE MOREWOOD LEFFERTS, M.D. ..... *Clinical Professor*
D. BRYSON DELAVAN, M.D. ..... *Chief of Clinic*
GEORGE A. RICHARDS, M.D. ..... *Clinical Assistant*
WILLIAM K. SIMPSON, M.D. ..... *Clinical Assistant*
CHRISTOPHER J. COLLES, M.D. ..... *Clinical Assistant*
JAMES P. MCEVOY, M.D. ..... *Clinical Assistant*
JONATHAN DWIGHT, JR., M.D. ..... *Clinical Assistant*
EDWARD W. PERKINS, M.D. ..... *Clinical Assistant*
RICHARD FROTHINGHAM, M.D. ..... *Clinical Assistant*
JOSEPH E. FULD, M.D. ..... *Clinical Assistant*
EDMUND W. BILL, M.D. ..... *Clinical Assistant*

Courses

I—LECTURES AT THE VANDERBILT CLINIC UPON THE DISEASES OF THE THROAT AND NOSE, WITH LARYNGOSCOPIC AND RHINOSCOPIC DEMONSTRATIONS—A systematic course of didactic lectures, fully illustrated, as the subject demands, by the presentation or demonstration of patients. During the course all of the minor surgical operations upon throat and nose are performed in the presence of the class. The subject and dates of the lectures are announced in printed form at the beginning of the session. 1 hour a week for twenty-eight weeks. Monday at 2 P.M. Professor LEFFERTS

Required, in the fourth year, of candidates for the degree of M.D.

II—Practical Instruction at the Vanderbilt Clinic in the Use of the Laryngoscope and Rhinoscope upon the "Phantom," and upon Adult Patients—The course is based upon the principle of short preliminary explanations, followed by practical work by the students, directly and personally supervised by the instructor. The necessary instruments and apparatus are furnished by the department. 12 lessons for each student. Dr. Delavan

Required, in the fourth year, of candidates for the degree of M.D.

Equipment

The department of Laryngology is equipped with a complete collection of the most approved modern instruments and appliances, by the best makers, for the diagnosis and treatment of the diseases of the throat and nose. and for the giving of instruction therein.

Among other things may be mentioned: a complete collection of the modern electric illuminating apparatus for the examination of patients; the electric laryngoscope; apparatus for the trans-illumination of the accessory cavities of the face; dilators, candulæ, and other instruments used in the treatment of laryngeal stenosis; operative instruments by Pfau of Berlin, arranged in cases and catalogued; laryngoscopic "phantoms," by Bock of Leipsic, for exercising the students in the use of the various instruments preliminary to the examination of the living subject; one hundred anatomical models of the healthy and diseased larynx by Stieger of Leipsic and Tobold of Berlin. Models of the normal larynx by Bock of Leipsic, and by Auzoux of Paris; physiological models to illustrate the normal movements and the various paralyses of the vocal cords; a diagrammatic model, to illustrate the mechanical interference of laryngeal neoplasms with the act of phonation; photographs of the living larynx, in health and disease; four hundred wall plates in color by Wright of New York, of the pathological conditions of larynx, pharynx, naso-pharynx, and nasal passages. These are of large size (42 x 36) to illustrate the clinical lectures. A collection of large drawings, illustrating the anatomy of the accessory sinuses of the nose. Also illustrated by a series of sections of the skull, made by Ward of Rochester, and by a series of models of frozen sections of the human head, prepared by Odo Betz and by Elkins. Fränkel's photogravures of the same subjects. Drawings and instruments to illustrate the operation of intubation. Reproductions of all the earlier tubes for laryngeal catheterization and intubation. This latter collection is historically interesting as illustrating the evolution of the intubation tube. A special manikin, upon which the process of intubation may be practically demonstrated to a large number of students at one time. Wet preparations of the larynges of children, demonstrating *in situ* the proper-sized intubation tube, and its exact position in the larynx at different ages (1–15 years); and a series of models by Elkins, of laryngeal diphtheria; a collection of skulls, demonstrating the various lesions of the nasal septum, and abnormalities of the nasal chambers.

The pathological and anatomical museum of the department contains at present one hundred and fifty carefully prepared and mounted wet preparations of the larynx and its diseases. This collection is specially rich in the rare specimens, such as benign neoplasms of the larynx, intrinsic and extrinsic, laryngeal cancer, and others.

Latin

HARRY THURSTON PECK, Ph.D., L. H. D. ..... *Professor*
JAMES C. EGBERT, JR., Ph.D. ..... *Adjunct Professor*
NELSON G. MCCREA, Ph.D. ..... *Instructor*
HENRY J. BURCHELL, JR., A.M. ..... *Assistant*

General Statement

Course A is required of freshmen in the College, B of sophomores, unless they elect Chemistry as a substitute; I and II are open as elective to juniors, III–VI, IX, XI, XII, XIV to seniors and university students, VIII–XIV to university students, X to seniors, by special permission, and III and IV to specially qualified juniors.

Courses

A—CICERO DE SENECTUTE—HORACE: ODES, EPODES, CARMEN SÆCULARE. Latin prose composition. Reading at sight. 3 hours. Professor PECK and Mr. BURCHELL

B—HORACE: SATIRES AND EPISTLES—Latin prose composition. Selected readings in prose and verse. Latin literature. 3 hours. Professors PECK and EGBERT

I—THE SATIRES OF JUVENAL—Lectures on the Roman Satirists. 2 hours, first term. Professor EGBERT

II—EPIGRAMS OF MARTIAL—2 hours, second term. Professor EGBERT

III—CICERO DE FINIBUS—Lectures on the Ciceronian philosophy. 2 hours. Dr. MCCREA

IV—PLAUTUS AND TERENCE—Lectures on Roman comedy. 2 hours. Dr. MCCREA

V—CICERO AND HIS LETTERS—2 hours. Dr. MCCREA

VI—THE HISTORY OF THE LATIN LANGUAGE—2 hours. Professor PECK

VII—PERSIUS—2 hours, first term. Professor PECK

VIII—THE TRAGIC FRAGMENTS OF ENNIUS—2 hours, second term. Professor PECK

IX—LATIN BIBLIOGRAPHY—1 hour. Professor PECK

X—LATIN PALÆOGRAPHY AND DIPLOMATICS—1 hour. Professor EGBERT

XI—INTRODUCTORY COURSE IN LATIN INSCRIPTIONS—2 hours. Professor EGBERT

XII—ROMAN HISTORICAL READINGS—LIVY—2 hours. Professor EGBERT

XIII—THE SEPTUAGINT AND VULGATE—THE BOOK OF JOB. 1 hour, second term. Professor EGBERT

XIV—ADVANCED LATIN PROSE COMPOSITION—2 hours. Professor PECK and Dr. MCCREA

Law

The courses offered in Law are here indicated. For full information as to the course leading to the degree of bachelor of laws consult the statement concerning the School of Law.

MUNICIPAL OR PRIVATE LAW

WILLIAM A. KEENER, LL.D.....*Professor*
GEORGE M. CUMMING, A. B.....*Professor*
FRANCIS M. BURDICK, LL.D.....*Professor*
GEORGE W. KIRCHWEY, A. B.....*Professor*
GEORGE F. CANFIELD, A.M., LL.B.....*Professor*
HENRY W. HARDON, A.M., LL.B.....*Professor*
JOHN ORDRONAUX, LL.D.....*Professor of Medical Jurisprudence*
HERBERT NOBLE, A.M., LL.B.....*Lecturer*
ALEXANDER TISON, A.M., LL.B.....*Lecturer*
DAVID BANDLER, A.B., LL.B.....*Prize Lecturer*

General Statement

Courses I to V, inclusive, constitute the work of the first year in the Law School and are open to seniors in the College. Courses VI to XIV, inclusive, are open to students who have taken the work of the first year in law. Courses XVI to XXV, inclusive, are open to students who have taken the work of the first and second years in law. Course XV is an optional and cannot be offered for a degree.

Courses

I—ELEMENTS OF JURISPRUDENCE AND EQUITY—2 hours. Professor KEENER

II—CONTRACTS—4 hours. Professor CUMMING

III—REAL AND PERSONAL PROPERTY—3 hours. Professor KIRCHWEY

IV—TORTS—2 hours. Professor BURDICK

V—COMMON LAW PLEADING AND PRACTICE—2 hours, second term. Professor CUMMING

VI—CONTRACTS AND QUASI-CONTRACTS—3 hours. Professor HARDON

VII—EQUITY—2 hours. Professor KEENER

VIII—REAL AND PERSONAL PROPERTY—3 hours. Professor KIRCHWEY

IX—AGENCY—2 hours. Professor CANFIELD

X—BAILMENTS AND CARRIERS—2 hours. Mr. NOBLE

XI—SALES OF PERSONAL PROPERTY—2 hours. Professor BURDICK

XII—CODE PRACTICE—2 hours, second term. Mr. BANDLER

XIII—EQUITY PLEADING AND PRACTICE—2 hours. Mr. BANDLER

XIV—Negotiable Paper—2 hours. Professor Burdick

XV—Medical Jurisprudence—3 hours, October to January. Professor Ordronaux

XVI—Code Pleading and Practice—2 hours. Mr. Noble

XVII—Corporations—2 hours. Professor Keener

XVIII—Equity—2 hours. Mr. Tison

XIX—Evidence—2 hours. Professor Canfield

XX—Insurance—2 hours, second term. Mr. Bandler

XXI—Partnership—2 hours. Professor Burdick

XXII—Suretyship and Mortgage—2 hours. Professor Hardon

XXIII—Wills and Administration—2 hours. Professor Hardon

XXIV—Doctrines Peculiar to New York Law—1 hour. Professor Canfield

XXV—Receivers—1 hour. Mr. ———

PUBLIC LAW AND JURISPRUDENCE

John William Burgess, Ph.D., LL.D.....*Professor*
Munroe Smith, A.M., J.U.D.....*Professor*
Frank Johnson Goodnow, A.M., LL.D.....*Professor*
John Bassett Moore, A.B.....*Professor*
Edmond Kelly, A.M.....*Lecturer*

General Statement

The courses in this department fall into two divisions: Public Law and Jurisprudence. The purpose of the courses in public law is to give a complete general view of international, constitutional, administrative, and criminal law. They serve primarily to supplement the courses in the department of History and Economics, and to give with them a complete system of political science. In the second place, they supplement the courses offered by the department of Private Law, constituting with these a well-rounded legal curriculum. The courses in international, constitutional, and administrative law are also recommended to journalists, students of philosophy and theology, and in general to all who desire to understand the organization and working of governmental systems. The courses in Criminal Law and in International Private Law (conflicts of private law) are more professional in their character, and are chiefly intended for law students.

The courses in Roman Law and Comparative Jurisprudence, while constituting an integral portion of a complete legal education, will be found useful to all those who desire a general comprehension of the principles of private law rather than a professional training in its details. The introductory course upon the Roman Law (XXI) and that upon European Legal History (XXIII) are especially recommended to students of history, economics, and philosophy.

Courses in Public Law

A—Constitutional Law

I—Comparative Constitutional Law of the Principal European States and the United States—Lectures, 2 hours. Professor Burgess

V—Seminar in the Constitutional Law of the United States—Investigation and discussion. 2 hours. Professor Burgess

The courses on the Constitutional History of Europe, England, and the United States (*cf.* courses in History) are regarded as a necessary introduction to the above courses on Constitutional Law.

B—International Law

VI—History of Diplomacy—Lectures, 2 hours, first term. Professor Moore

VII—History of American Diplomacy—Lectures, 2 hours, second term. Professor Moore

VIII—International Law—Lectures, 2 hours. Professor Moore

X—Seminar in International Law—Professor Moore

C—Criminal Law

XI—Criminal Law, Including the Conflict of Penal Laws, and Extradition—Lectures, 2 hours. Professor Moore

D—Administrative Law

XVI—Comparative Administrative Law—Lectures, 2 hours. Professor Goodnow.

XVII—Law of Municipal Corporations—Lectures, 2 hours, first term. Professor Goodnow.

XVIII—Law of Taxation—Lectures, 2 hours, second term. Professor Goodnow

XIX—Municipal Politics—Lectures, 2 hours, first term. Mr. Kelly

XX—Seminar in Administrative Law—Professor Goodnow

Courses in Jurisprudence

XXI—Roman Law I—Sohm's Institutes of Roman Law, supplemented by lectures. 2 hours, first term. Professor Munroe Smith

XXII—Roman Law II—Discussion of selected cases from the Digest of Justinian. 2 hours, second term. Professor Munroe Smith

XXIII—History of European Law (primitive Aryan, Old German, and Frankish Law; the canon law; the reception of Justinian law in mediæval Europe; the reaction against the Roman law, canon and civil, and the move-

ment toward national codification)—Lectures, 2 hours. Professor MUNROE SMITH (1897–8, and alternate years following).

XXIV—COMPARATIVE JURISPRUDENCE—Lectures and discussions, 2 hours. Professor MUNROE SMITH (1896–7, and alternate years following).

XXV—INTERNATIONAL PRIVATE LAW (conflicts of private law)—Lectures and discussion of cases, 1 hour. Professor MUNROE SMITH

XXIX, XXX—SEMINARS IN LEGAL HISTORY AND COMPARATIVE LEGISLATION—Professor MUNROE SMITH

Literature

(See page 77)

Materia Medica and Therapeutics

GEORGE L. PEABODY, M.D.....*Professsor*
HENRY A. GRIFFIN, M.D.....*Lecturer*

Courses

Instruction in this department is both didactic and clinical.

I—The didactic course embraces general therapeutic considerations ; modes of administering drugs ; the individual drugs used in treating disease, their physiological effects and therapeutic uses, and the toxicological effects of such of them as are poisons ; remedial measures other than the use of drugs, including electricity, dietetics, the use of water (including bathing and the administration of mineral waters) ; physical exercise, and the like.

The department has a full collection of all the drugs lectured upon, as well as of their important preparations. After each lecture every student has an opportunity of examining specimens of all the drugs and preparations that formed the subject of the lecture. 3 hours. Professor PEABODY

Required, in the second and third years, of candidates for the degree of M.D.

II—The clinical instruction in therapeutics is given at the bedside in the wards of the New York and Roosevelt Hospitals.

A large number of patients are presented to the class, and abundant opportunity is afforded of observing the modifications in the natural course of diseases which are produced by therapeutic procedures, including not only the action of drugs, but also the effects of such remedial measures as cold baths, wet packs, electricity, and the like.

Frequent opportunity is also given for the personal examination of patients by members of the class in attendance ; and the entire course of protracted diseases, with their variations in symptoms and physical signs as well as in their treatment, can thus be observed.

Facilities are also extended for witnessing the performance of autopsies in fatal cases as frequently as the hospital regulations permit.

Twice a week for three months at the New York Hospital, once a week for two months at the Roosevelt Hospital. Professor PEABODY

Required, in the third year, of candidates for the degree of M.D.
For information as to the New York Hospital, see table of contents.

Mathematics

JOHN HOWARD VAN AMRINGE, Ph.D., L.H.D., LL.D.....*Professor*
THOMAS SCOTT FISKE, Ph.D.....*Adjunct Professor*
FRANK NELSON COLE, Ph.D.....*Professor*
JAMES MACLAY, C.E.....*Instructor*
JONATHAN BRACE CHITTENDEN, Ph.D.....*Tutor*
JOHN ETHAN HILL, Ph.D.....*Tutor*
GEORGE BALTHASAR GERMANN, A.B.....*Assistant*
FRANCIS A. PROVOT, C.E.....*Assistant*

Courses

A—GEOMETRY, VOLUMETRIC AND SPHERICAL (Davies' Legendre, Books 6–9)—3 hours, first term.

ALGEBRA FROM QUADRATICS (Wells' College Algebra)—3 hours, second term. Dr. CHITTENDEN

Required of freshmen in the College.

B—TRIGONOMETRY, PLANE, ANALYTICAL, AND SPHERICAL (Davies' Legendre)—2 hours. Professor FISKE

Required of sophomores in the College.

I—ANALYTICAL GEOMETRY (Wentworth's)—3 hours. Professor VAN AMRINGE

Elective for juniors and seniors in the College.

II—PROJECTIVE GEOMETRY—2 hours. Dr. HILL

Elective for juniors and seniors in the College.

III—THEORY OF EQUATIONS AND SOLID ANALYTICAL GEOMETRY—3 hours. Dr. HILL

Elective for seniors in the College who have taken I.

IV—DIFFERENTIAL AND INTEGRAL CALCULUS (Osborne's)—3 hours. Professor VAN AMRINGE

Elective for juniors and seniors in the College.

V—TRIGONOMETRY (as in Course B) AND ALGEBRA (Wells' College Algebra) FROM SERIES—4 hours, first term.

ANALYTICAL GEOMETRY (Wentworth's) THROUGH THE HYPERBOLA—4 hours, second term. Dr. CHITTENDEN

Required of all first-year students in the School of Mines, School of Chemistry, and School of Engineering.

VII—ANALYTICAL GEOMETRY (Wentworth's) FROM THE LOCI OF THE SECOND ORDER, AND DIFFERENTIAL AND INTEGRAL CALCULUS (Osborne's)—4 hours. Professor VAN AMRINGE

Required of second-year students in the School of Mines and School of Engineering.

XIII—SPECIAL TOPICS IN DIFFERENTIAL AND INTEGRAL CALCULUS—3 hours, first term. Professor FISKE

For A.M. and Ph.D. Half minor for A.M.

XIV—DIFFERENTIAL EQUATIONS AND APPLICATIONS—3 hours, second term. Professor FISKE

For A.M. and Ph.D. Half minor for A.M.

XV—Higher Plane Curves—3 hours, first term. Dr. Hill
For A.M. and Ph.D. Half minor for A.M.

XVI—Theory of Invariants—3 hours, second term. Dr. Chittenden
For A.M. and Ph.D. Half minor for A.M.

XVII—Analytical Theory of Curves of Double Curvature and Curved Surfaces—3 hours, second term. Dr. Hill
For A.M. and Ph.D. Half minor for A.M.

XVIII—Theory of Substitutions—3 hours. Professor Cole
For A.M. and Ph.D. Not given in 1896–7.

XIX—General Theory of Functions—3 hours. Professor Fiske
For A.M. and Ph.D. Not given in 1896–7.

XX—Theory of the Complex Variable, and Elliptic Functions—3 hours. Professor Cole
For A.M. and Ph.D.

XXII—Theory of Functions (Second course)—3 hours. Professor Fiske
For A.M. and Ph.D.

Equipment

In the equipment of the department of Mathematics is a large number of models, charts, and instruments. An elaborate set of models illustrates the metric system of weights and measures. A set of about fifty models of elementary solid and spherical geometry is intended to exemplify the demonstrations contained in Davies' Legendre. These are made of cherry wood with markings of inlaid ebony, and are of unusually large size. There are several similar models representing the different plane sections of the cone. A series of wooden models, constructed by Schroeder of Darmstadt, also illustrates elementary solid geometry, and contains, in addition, examples of all the different forms of the surfaces of the second order. There is a series of models of descriptive geometry, also constructed by Schroeder. The horizontal and vertical projections are traced upon boards solidly joined together at right angles and of convenient size to allow in general the representation of three different models or of three different views of the same model. The form and construction suggest a division of these models into two classes: (1) the representation in metal of lines and surfaces, adjusted upon axes, the projections of several of their positions being given; (2) the representation of solid bodies in hard wood, including the exhibition of their plane sections in various directions and the intersections of different surfaces and solids.

A collection of models, which was presented to the department by President Low, having been purchased by him from the German University Exhibit at the Chicago Exposition in 1893, illustrates analysis situs, theory of functions of a complex variable, surfaces of higher order, their singularities and curvature, and line-geometry.

A series of charts illustrates the theory of plane algebraic curves, especially those of the fourth order, the resolution of a higher plane singularities into equivalent elementary singularities, the expression of functions by means of infinite series and infinite products, and conformal representation by means of algebraic and elliptic functions.

Among the instruments of the department are an Amsler's planimeter, many instruments for executing geometrical constructions upon blackboard and paper, a collection of curves of different sizes in wood and hard rubber, and several pieces of apparatus for describing the conic sections upon the blackboard in accordance with the well known kinematic methods.

The collection of mathematical works in the library of the University is especially rich in sets of collected works of mathematicians. All the mathematical journals of any importance are regularly received, and the library possesses complete sets of most of them.

Mechanical Engineering

(See page 70)

Mechanics

ROBERT SIMPSON WOODWARD, C.E., Ph.D.....*Professor*
MICHAEL IDVORSKY PUPIN, Ph.D.....*Adjunct Professor*
JOSEPH CLEMENT PFISTER, A.M.....*Tutor*
WILLIAM HORATIO FREEDMAN, C.E., E.E.....*Tutor*

General Statement

Courses I and III–IX may be pursued as minors for the degrees of A.M. and Ph.D. by candidates who have not taken such courses in undergraduate work, 3 hours per week for one term constitutes a minor for the degree of A.M., and 3 hours per week for two terms a minor for the degree of Ph.D.

Time equivalent to 3 hours per week for four terms devoted to courses X–XVIII is required as a major for the degree of Ph.D., and 3 hours per week for two terms as a major for the degree of A.M. For a minor for the degree of Ph.D., a time equivalent to 2 hours per week for two terms is required.

Courses X and XI will alternate from year to year with XII and XIII, X, and XI being assigned to the year 1896–7. Likewise, courses XIV and XV alternate with XVI and XVII, XIV and XV being assigned to the year 1896–7.

Courses

I—ANALYTICAL MECHANICS—As a text for this subject, Rankine's Applied Mechanics is used; attention being confined chiefly, however, to Part I, Principles of Statics (including hydrostatics); Part III, Principles of Kinematics; and Part V, Principles of Dynamics (including hydrodynamics). This text is supplemented by lectures on special topics, by written solutions and discussions of typical problems, and by demonstrations with the aid of apparatus. Particular attention is given to the doctrine of units and dimensions of units, and to problems affording actual applications of principles. 3 hours. Professor WOODWARD

Required of students in Engineering; and it is recommended to all students who may desire to pursue the higher applications of the science in dynamical astronomy, electricity and magnetism, thermodynamics, elasticity, and physical geodesy.

II—Elementary Mechanics—Loney's Elements of Statics and Dynamics is used as a text. This work is supplemented by demonstrations with apparatus, by lectures on the theory of dimensions and units, and by lectures, chiefly historical, on the higher applications and results of the science. 2 hours. Mr. Pfister

Offered especially as an elective to students of the junior year in the College. It is designed to afford as good a knowledge of the science as can be had without the calculus.

III—Theoretical Mechanics—Ziwet's Elementary Treatise on Theoretical Mechanics is used as a text. This requires familiarity with the elements of the differential and integral calculus. 2 hours. Mr. Pfister

Designed to be supplementary to course II. and is offered as an elective to those desiring a knowledge of the general principles of the science rather than the special principles essential to engineering.

IV—Thermodynamics, with special reference to its bearing on the theory of caloric engines—3 hours, first term. Professor Pupin

Required of all students in Engineering.

V—Elementary Thermodynamics—The ground covered by this course is indicated by Maxwell's Theory of Heat, which is used as a text. In addition, lectures are given on the more advanced principles and results of the science. 2 hours, one term. Mr. Pfister

This course is offered as an elective to students of the senior year in the College. Its pre-requisite is course II, or an equivalent.

VI—Theory of Dynamo and Motor (Introductory), covering elements of the theory of electric, magnetic, and electro-dynamic potential, theory of electro-magnetic and electro-dynamic induction and its application to the theory of an ideal dynamo—3 hours, first term. Professor Pupin

Required of students in Electrical Engineering.

VII—Theory of Dynamo and Motor (Direct Current), covering Hopkinson's theory of dynamo and motor designing, and Froehlich's method of dynamo and motor testing—3 hours, second term. Professor Pupin

Required of students in Electrical Engineering.

VIII—Theory of Alternators, Transformers, and Alternating Current Motors—3 hours, first term. Professor Pupin

Required of students in Electrical Engineering.

IX—Theory of Variable Currents, particularly the theory of high frequency and high potential currents—2 hours, second term. Professor Pupin

Required of students in Electrical Engineering.

*IX (a)—Electrical Measurements

* 1. A mathematical treatment of electro-statics, including theory of potential, capacity, specific inductive capacity, electrometer.

2. A mathematical treatment of magnetic induction, electric current, current sheets, resistance measurements, galvanometer.

2 hours. Mr. Freedman

X—Advanced Theoretical Mechanics—General principles of statics and kinetics; methods of Lagrange, Hamilton, and Jacobi; applications of the doctrine of energy to the interpretation of mechanical phenomena. 2 hours. Professor Woodward

XI—Theory of the Potential Function—General exposition of theory ; derivation of equations of Laplace and Poisson and theorems of Gauss, Green, and Stokes ; with applications to problems in gravitation, hydromechanics, static electricity, and terrestrial magnetism. 2 hours. Professor Woodward

XII—Geodynamics—Amount and distribution of earth's mass ; phenomena of precession, nutation, and oceanic tides ; variation of density, gravity, and pressure within the earth ; thermal properties and secular contraction of the earth ; mechanics of crumpling and crust movements. 2 hours. Professor Woodward

XIII—Mathematical Theory of Elasticity—Analysis of stresses and strains and expression of strains in terms of stresses ; discussion of potential energy of strained media and the constants essential to define them ; theory of wave motion in elastic media, with applications to sound and light. 2 hours. Professor Woodward

XIV—Maxwell's Theory of Electricity and Magnetism—2 hours.

XIV (a)—Theory of Bessel's Functions and Spherical Harmonics—1 hour. Professor Pupin

XV—Electro-magnetic Theory of Light—3 hours, first term. Professor Pupin

XVI—Advanced Thermodynamics, including its applications to thermo electricity and thermo-magnetism, physical chemistry, and caloric engines. 2 hours. Professor Pupin

XVII—Theory of Oscillations—2 hours. Professor Pupin

Equipment

The department is supplied with various machines and models of machines for illustrating the so-called mechanical powers, with balances, dynamometers, air pump, hydraulic pumps, and other apparatus to which reference is made in the course of theoretical studies. A laboratory designed especially for experimental investigations in electricity and magnetism is available to graduate students. In addition to its own appliances, the department has access to the apparatus of the allied departments, especially that of the department of Electrical Engineering, thus affording the facilities of an extensive equipment to the students in advanced work.

Microscopy and Microbiology

(See page 56)

Mineralogy and Metallurgy

Thomas Egleston, E.M., Ph.D., LL.D. ..... *Professor*

MINERALOGY

Alfred J. Moses, E.M., Ph.D. ..... *Adjunct Professor*
Lea McI. Luquer, C.E., Ph.D. ..... *Tutor*
Herbert P. Whitlock, C.E. ..... *Assistant*

METALLURGY

Joseph Struthers, Ph.D ..... *Tutor*
Parker C. McIlhiney, Ph.D. ..... *Assistant*

Courses in Mineralogy

I—Blowpipe Analysis—The tests for 40 elements and the qualitative analysis of minerals, alloys, and slags. 1 hour conference, and afternoons of alternate weeks, laboratory work, 1 term. Professor Moses, Dr. Luquer, and Mr. Whitlock

Required of first-year students in the School of Mines and School of Chemistry. Open as an elective in the College.

II—Crystallography—History, general characters, laws, forms, simple measurements, and calculations. Lectures and conferences 2 hours, 1 term. Professor Moses

Required of first-year students in the School of Mines and School of Chemistry. Open as an elective in the College.

IIa—General Mineralogy—First term, definitions, principles, and laws, crystal forms; appearance and properties of common minerals, practical determination of minerals. Second term, physical properties of crystalline substances with practice in elementary determinations of physical constants, and measurement and delineation of geometric form. 2 hours lecture or conference and one afternoon laboratory. Professor Moses

Open to seniors who have taken Chemistry I and Physics I.

III—Descriptive and Determinate Mineralogy—Study of 200 important species, their properties, uses, and methods of determination. 2 hours lectures, 3 hours laboratory work, second term of first year and first term of second year. Professor Moses and Dr. Luquer

Required of first- and second-year students in the School of Mines and School of Chemistry. Open to candidates for the degree of A.M., or for the degree of Ph.D., in their first year, whose minor subject is Mineralogy. Pre-requisite: courses I and II.

IV—The Minerals of Building Stones—Study of 70 species, their properties, methods of determination, and their economic effect on building stones. 2 hours lectures, 2 hours laboratory work. Dr. Luquer

Required of second-year students in the School of Engineering in the course of Civil Engineering. Open to candidates for the degree of A.M. whose minor subject in Mineralogy.

V—Elementary Course on Twenty-five Common Minerals—12 lectures in first term of third year as introduction to study of geology. Professor Moses

Required of third-year students in the School of Architecture.

VI—Optical Mineralogy—Principles, apparatus, and distinguishing characters of minerals in sections. 2 lectures and 2 hours laboratory work, for two months of second term of second year. Dr. Luquer

Required of second-year students in the School of Mines.

VII—Optical Mineralogy—Longer course, including determination of optical constants, study of microstructure, microchemical tests, separation of constituents, and preparation of sections. Dr. Luquer

Open to candidates for the degree of A.M. whose major subject is Mineralogy, or to candidates for the degree of Ph.D. whose minor subject is Mineralogy. Pre-requisite: course IIa or IV, or equivalent.

VIII—Crystallography—The optical, thermal, electric, and magnetic properties of crystals with experiments; the geometric form with measurement

and delineation; the effects of mechanical forces. Theories of structure. Professor MOSES

Open to candidates for the degree of A.M. whose major subject is Mineralogy, or candidates for the degree of Ph.D. whose minor subject is Mineralogy. Pre-requisite: course II or IIa.

IX—CRYSTALLOGRAPHY—Longer course, including the study of the crystals of some isomorphous group, the artificial preparation of the crystals, and their chemical and physical properties. Professor MOSES

Open to candidates for the degree of Ph.D. whose major subject is Mineralogy. Pre-requisite: courses IIa, or II and III, or equivalent.

X—MINERALOGY—Study of assigned group or species. Professor MOSES

Open to candidates for the degree of Ph.D. whose major subject is Mineralogy. Pre-requisite: courses IIa, or II and III, or equivalent.

Equipment

The work of the students in the undergraduate courses and in general mineralogy is performed in the blowpipe laboratory, a large room with conference tables and seats for about seventy-five men. In this room are the student collections of minerals and crystal models.

The department is equipped for work in the university courses offered.

The present mineralogical collection consists of about 26,000 labelled specimens, and includes, in addition to the main collection, a large suite of pseudomorphs, a collection illustrating the physical character of minerals, a collection of natural crystals, and a collection of New York City minerals. Arranged in wall cases are large specimens, showing the associations of minerals. There are also three separate student collections of average specimens, more than 6000 in number; several thousand unlabelled specimens used in determinative work, about 500 sections of minerals, and 1500 crystal models in wood and glass.

Among the collections of minerals that have been presented to the department from time to time are some that possess historic value, among which may be mentioned the Gillmore collection, made in Paris under the direction of the Abbé Hauy and presented by the late Gouveneur Kemble of West Point. A collection of American minerals presented by the late George T. Strong. A collection of Schulsberg (Wis.), stalactites exhibited at the Sanitary Fair, a fine suite of Russian minerals presented by the Czar, two of the finest cerussites known, the famous collection of Professor How, of King's College, Nova Scotia, and a very valuable collection made by Dr. Egleston in Japan.

In addition, a large number of gifts of one or more specimens have been received, and these have been supplemented by careful purchasing and exchanging.

Courses in Metallurgy

I—GENERAL METALLURGY—As an introduction to courses II, III, IV, and V, history, definition of terms, calorimetry, refractory materials, furnaces, fuels (natural and artificial), chimneys, blast engines, regulators, hot air stoves, tuyeres, pyrometry, furnace gas analysis.

Text-books: Percy's Metallurgy of Fuels, Iron, and Steel, Bauermann's Metallurgy of Iron, Greenwood's Metallurgy of Iron and Steel, Egleston's Metallurgical Tables. 3 hours lectures and 1 hour review, first term. Professor EGLESTON and Dr. STRUTHERS

Required of third-year students in the School of Mines and in the School of Chemistry. Students in Metallurgy have an additional hour per week during the first term for review by Dr. Struthers.

II—THE METALLURGY OF IRON AND STEEL.—*Cast Iron:* Discussion of ores, effect of impurities, construction of the blast furnace and auxiliary apparatus. Theory of the process, detailed discussion of practice, slags, calculation of charges, foundry practice, malleable cast iron.

Weld Iron: Properties, effect of impurities, knobbling process, German process, fining, puddling, rolls, shears, hammers, piling, reheating, and general mill work.

Direct methods for wrought iron: Catalin, Bloomary, Chenot, Blair, and other processes.

Steel: General description, effect of impurities, direct methods of manufacture, cementation process, crucible process, acid open-hearth process, acid Bessemer process, basic open-hearth process, basic Bessemer process, pit practice of handling ingots, general mill-work, including reheating, rolling, rails, tires, wire, and uses of scrap steel.

Text-books: H. M. Howe's Metallurgy of Steel, Percy's Metallurgy of Fuels, Iron, and Steel; Greenwood's Metallurgy of Iron and Steel; Egleston's Metallurgical Tables. 3 hours lectures and 1 hour review, second term. Professor EGLESTON and Dr. STRUTHERS

Required of third-year students in the School of Mines, and in the School of Chemistry. Students in the course of Metallurgy have an additional hour during the second term for review and supplementary work by Dr. Struthers.

III—METALLURGY OF THE METALS.—*Copper:* Properties, effect of impurities, ores, roasting, shaft-furnace treatment, reverberatory-furnace treatment, treatment of native ores at Lake Superior, treatment of pure and poor sulphide ores, treatment of impure sulphide ores, Bessemerizing copper matter, treatment of oxides, wet processes, condensation and treatment of furnace gases, electrolytic refining processes.

Lead: Properties, effect of impurities, ores, roasting and reaction process, roasting and reduction process, precipitation processes, desilverization, refining.

Silver: Ores, roasting furnaces, fusion processes, amalgamating processes, wet processes, desilverization, cupellation, refining.

Gold: Ores, hand and machine hydraulic processes, stamp milling, parting processes, chlorination processes, cyanide process.

Zinc: Properties, ores, English, Belgian, and Silesian processes, refining and mechanical treatment.

Tin: Properties, ores, mechanical treatment, reverberatory and shaft-furnace processes, refining.

Mercury: Properties, ores, treatment in Austria, Spain, and California.

Bismuth: Distillation process, refining.

Arsenic: Distillation process, refining.

Antimony: Processes, refining.

Nickel and Cobalt: Concentration, separation, refining.

Aluminum: Furnace and electrolytic processes.

Text-books: E. D. Peter's, Jr., American Methods of Copper Smelting; H. O. Hofman, Lead Smelting; T. Egleston, Metallurgy of Gold, Silver, and Mercury; T. K. Rose, Metallurgy of Gold. 3 hours lectures and 1 hour review. Professor EGLESTON and Dr. STRUTHERS

Required of fourth-year students in the School of Mines and School of Chemistry. Students in the course of Metallurgy in the School of Mines have one additional hour per week during entire year for review and supplementary work by Dr. Struthers.

IV—ADVANCED COURSE IN CALORIMETRY—Determination of practical and theoretical values of various combustibles. 1 hour instruction and 6 hours laboratory practice, first term. Professor EGLESTON and Dr. STRUTHERS

Open to candidates for the degree of A.M. or Ph.D. whose major subject is Metallurgy. Pre-requisite or parallel: course I.

V—ADVANCED COURSE IN PYROMETRY—Determination of temperatures of furnace gases from combustion. 1 hour instruction and 6 hours laboratory practice, first term. Professor EGLESTON and Dr. STRUTHERS

Open to candidates for the degree of A.M. or Ph.D. whose major subject is Metallurgy. Pre-requisite or parallel: course I.

VI—MICROSCOPIC STUDY OF IRON AND STEEL—Cutting, grinding, and preparing specimens and microscopic examinations of same. 1 hour instruction and 6 hours laboratory practice, second term. Professor EGLESTON and Dr. STRUTHERS

Open to candidates for the degree of A.M. or Ph.D. whose major subject is Metallurgy. Pre-requisite or parallel: course II.

VII—STUDIES OF THE SOLUBILITIES OF METALS AT HIGH PRESSURES—Chemical examination of the metals treated. 1 hour instruction and 6 hours laboratory practice, second term. Professor EGLESTON

Open to candidates for the degree of A.M. or Ph.D. whose major subject is Metallurgy. Pre-requisite or parallel: course I.

VIII—STUDIES OF THE PHYSICAL PROPERTIES OF METALS—Determination of hardness, heat, and electrical conductiveness under various circumstances. 1 hour instruction and 6 hours laboratory practice, second term. Professor EGLESTON

Open to candidates for the degree of A.M. or Ph.D. whose major subject is Metallurgy. Pre-requisite or parallel: course I.

Equipment

There is a lecture-room containing a large number of models of various furnaces, blowers, fans, heaps, stalls, lixiviation plants, Bessemer steel plant, and rolls, used in illustration of lectures, both primary and supplementary. A collection of 1200 large diagrams and 1200 lantern slides also used in lecture illustration, and a collection of ores, refractory materials for furnace construction, and fuels; also used in lecture illustration.

The collections illustrating the department of Metallurgy include models of furnaces and a very large number of drawings and tracings, in most cases copies from the working drawings of establishments in actual operation. This collection embraces several hundred tracings collected from the best types of

works in this country and abroad, many of them being sufficiently detailed to be used as construction drawings.

The metallurgical collection, properly speaking, embraces about 3000 specimens, illustrating every stage of many prominent metallurgical processes. Many of these specimens have been analyzed or assayed. They are open to the inspection of the students.

The metallurgical laboratory, in addition to a general equipment for analytical work, has a number of furnaces for heat investigations. There are collections of the various modern calorimeters, of calorimetric, optical, photometric, and thermo-electric pyrometers; apparatus for analyzing furnace gases; equipment for iron and steel sections; lathes, grinders, polishers, and microscopes especially adapted for examination of opaque objects; a collection of apparatus for obtaining direct pressure and pressures by the application of heat; and a machine, constructed by Dr. Egleston, for the study of the physical properties of metals.

It is designed to make the lectures in both years as practical as possible, and for this purpose the economic details of cost are given whenever they can be obtained from authentic sources. Special attention is given to the ores of the United States, to ores which are difficult to treat, to the solution of practical problems which may occur, and to changes which different economic relations are liable to cause in the treatment of the same ore in different localities.

In July, 1896, a summer school in practical metallurgy under the personal supervision of Dr. Struthers was held at Butte, Montana. The students in the courses of Mining Engineering and Metallurgy devoted their time to the study of the smelting of copper and silver ores in that district. Instruction was given by class and individually, and the students were required to make complete descriptions of the various processes in use, involving sketches of furnaces in detail. Note books were freely used and corrected daily. All the smelting plants at Butte and Anaconda were visited in their entirety and descriptions made as briefly outlined above.

As an application of the lectures, the students in the course in Metallurgy in the School of Mines are required to work out a project, and to present working drawings and estimates for the erection of works to treat a given ore under stated conditions. The problems given are those which require solution in some parts of the United States.

The students in the course in Metallurgy in the School of Mines have practical laboratory work in measuring furnace temperatures and in ascertaining the calorific power of fuels by means of calorimeters.

Mining

HENRY S. MUNROE, E.M., Ph.D.....*Professor*
ROBERT PEELE, E.M.....*Adjunct Professor*

Courses

I—EXCAVATION AND TUNNELING—3 hours, first term. Professor PEELE

Excavation of earth—tools and methods employed, support of excavations, special methods

for quicksand and other water-bearing material; steam shovels and other mechanical excavators; handling and transportation of excavated material; tables of comparative costs. Dredging—description of machines and methods for canal, river, and harbor work; handling of dredged material; costs of dredging. Explosives—black powder, nitro-glycerine and its compounds, and other high explosives; their manufacture and use. Excavation of rock—hand and machine drills, methods of blasting, mammoth blasts, submarine blasting. Quarrying—plant and methods for quarrying different rocks. Tunnelling—methods of driving and timbering; handling and transportation of excavated material; drainage and ventilation of tunnels; submarine tunnels; permanent lining of tunnels; accidents in tunnelling; location of tunnels.

Required of second-year students in the courses of Mining Engineering, Civil Engineering, and Metallurgy.

II—Boring and Shaft-Sinking—3 hours for 3 months, second term. Professor Peele

Boring—methods and appliances for small depths and for deep boring; cable tool or oil well method; boring with diamond drill, for prospecting and other purposes; survey of boreholes. Shaft-sinking—methods and tools employed in soft material or in rock; special methods of sinking in water-bearing formations, quicksand; drainage of shafts; handling and hoisting of excavated material. Shaft timbering and other systems of lining employed in special cases.

Required of second-year students in the courses of Mining Engineering and Metallurgy.

II(a)—Mining and Support of Mine Excavations—3 hours for 1 month, second term. Professor Munroe

Theoretical considerations, methods of breaking ground in coal and metal mining, and support of mine excavations by pillars of mineral, by timbering, by masonry, and by rock filling.

Required of second-year students in the courses of Mining Engineering and Metallurgy.

III—Exploration, Development, and Methods of Working—4 hours, first term. Professor Munroe

Mineral deposits, characteristics of beds, masses, veins, and other deposits, and the irregularities and disturbances to which they are subject, as affecting the work of exploration and mining. Examination and survey of mineral properties; relation of topography to geological structure; construction of maps and sections; and tracing of probable outcrops as a guide to exploration. Prospecting by ditches, pits, and deep boring. Development; choice of methods; location of openings. Working of deposits and support of excavations; methods applicable to deposits of different thickness, inclination, and character. Coal mining; vein mining; working of thick deposits and soft-ore bodies. Salt mining. Surface workings.

Required of third-year students in the courses of Mining Engineering and Metallurgy.

IV—Ore Dressing and the Mechanical Preparation of Coal—4 hours for 3 months, second term. Professor Munroe

The general principles and theory of dressing; preliminary operations; hand dressing; cleansing; crushing; jigging with and without preliminary sizing; slime concentration; and description of typical dressing works and coal-washing plants in this country and abroad.

Required of third-year students in the courses of Mining Engineering and Metallurgy.

V—Ore-Dressing Laboratory—1 afternoon for 2 months, second term. Professor Munroe

During the second term of the fourth year a portion of the time assigned to ore-testing is devoted to the mechanical assaying of ores and coal by hand jigging and vanning.

Required of fourth-year students in the courses of Mining Engineering and Metallurgy.

VI—Mine Engineering—2 hours first term and 1 hour second term. Professor Munroe

Extraction; methods and machinery; handling mineral in working places; underground haulage. Surface handling and transportation; arrangements for loading and unloading cars

and vessels, and for storing of minerals. Mineral railroads. Common roads. Drainage; sources of mine waters; methods for the control and raising of water; dams; drainage; levels. Water supply. Ventilation; air of mines; mine gases; methods of ventilation; control and measurement of air currents. Accidents to men in shafts, levels, and working places; fire-damp and dust explosions; mine fires; inundations; rescue and relief of men.

Required of fourth-year students in the courses of Mining Engineering and Metallurgy.

VII—MINE PLANT—3 hours first term and 2 hours second term. Professor PEELE

Descriptions and critical discussion of the machinery employed in hoisting, drainage, and ventilation; air compressing plant; types of plant best adapted to different conditions; erection and care of machinery; accidents, breakage, and repairs.

Lectures are given also upon the design of timber, masonry, and iron construction, headframes, hoisting cages, ventilating fans, mine buildings, and other portions of mining plant.

Required of fourth-year students in the courses of Mining Engineering and Metallurgy.

VII(A)—MINE CONSTRUCTIONS—4 hours for 1 month, second term. Professor PEELE

Building-stones; brick; limes; cements and concretes. Foundations in various soils; masonry, and timber construction, with special reference to mine work; mine buildings; trestles.

Required of third-year students in the courses of Mining Engineering and Metallurgy.

VIII—DESIGN OF MINE PLANT—5 afternoons first term and 4 afternoons, second term. Professor PEELE

The students are assigned problems involving the design and construction of mine plant, in connection with the development of a mine. This work supplements the lectures on the design of mining machinery, involving reading and study, and the preparation of working drawings, bills of material, specifications, and estimates.

The work is done under constant supervision and advice in the draughting-room.

Required of fourth-year students in the course of Mining Engineering.

IX—MINE SURVEYING—1 hour, second term. Professor MUNROE

This course supplements the practical work in underground surveying in connection with the Summer School in Mining. It includes the general principles of underground surveying, the construction of mine maps and models of mine workings, the measurement of contracts, the location of lines for new work.

Required of fourth-year students in the courses of Mining Engineering and Metallurgy.

X—ADMINISTRATION AND MINE ACCOUNTS—1 hour, second term, fourth year. Professor MUNROE

Administration, organization, and business management, mine accounts, and cost sheets. Examination and valuation of mines.

Required of fourth-year students in the courses of Mining Engineering and Metallurgy.

Summer School

XI—THE SUMMER SCHOOL OF PRACTICAL MINING is held in June and July, at some mine or mines selected for the purpose, in the vacation between the third and fourth years, and lasts five weeks. Professor PEELE and assistant in Mining.

The course of instruction includes six weeks' detailed study of the plant and methods of working at some important mine or mines; practical mine surveying; excursions to other mines and mining regions, and geological work, surface and underground.

The course of study includes the subjects of shaft-sinking, drifting, stopping, timbering, underground haulage, hoisting, mine drainage, ventilation, surface plant and machinery, mine buildings, shops, houses, water supply, drainage, organization, and administration. The students are divided into small squads, and assigned each day to a foreman, or working gang of

miners for the study of some definite subject. Each squad of students is visited several times during the day by the instructor, who supplements the explanations of the miners, and indicates subjects demanding special study and observation. Manual labor, and the acquirement of manual dexterity by the student, are subordinated to the development of his powers of observation, and to the careful and critical study of the work going on about him, and the recording of his observation and study in notes and sketches taken on the spot. The students' note-books are examined and criticised each evening. By thus carefully systematizing and directing the work of the student his time is economized, and as much ground is covered in a week as would be in a month under ordinary circumstances, and the work is done more thoroughly.

This summer school has been in successful operation since 1877, and has proved itself an indispensable adjunct to the course of instruction. It bears the same relation to the study of mining as laboratory work to the study of chemistry or physics, or clinical instruction and hospital practice to the study of medicine.

In 1894 the summer school was held at the Tamarack and Osceola copper mines, near Calumet, Michigan. After completing the regular work, visits were made to the smelting works at Hancock and Dollar Bay, to the Tamarack concentration mill, and to the Central mine. Finally, a sixth week was occupied with the professor of Geology in surface geological work in the same region.

In 1895 the summer school was held at Central City, Colorado, in the Gilpin County gold district. The regular work was done in the Gunnel, Saratoga, and Gregory-Bobtail mines, and in several of the Black Hawk gold mills. Visits were made also to other gold mines in the vicinity ; to the Pelican-Dives silver mine, at Silver Plume, sampling works at Georgetown, and finally to two of the large smelting and reduction works near Denver.

The usual field geological work was carried on at Golden, Colorado.

The summer school of 1896 was held in the Butte, Montana, copper and silver mining district. After completing the regular detail work in the Gagnon and Nettie mines, the class visited the Parrot, Anaconda, Silver Bow, and Rarus mines, also all the larger smelters in the vicinity of Butte. The work of the mining school was preceded by a week's field geology, with the professor of Geology.

Required of students in the courses of Mining Engineering and Metallurgy, in the vacation between their third and fourth years.

Optional to the same students, if without conditions, in the vacation between the second and third years.

Graduate Courses

Special courses, consisting of personal instruction, reading, and experimental investigation, will be arranged for advanced students according to their individual needs. These courses vary in difficulty and in the amount of time necessary, according as the student is a candidate for the degree of A.M. or Ph.D., and according as he pursues Mining as a major or a minor subject. The following are suggested :

XII—Coal Mining—2 hours.

XIII—Ore Mining—2 hours.

XIV—Coal Washing—1 hour.

XV—Ore Dressing—1 hour.

XVI—Examination of a Mineral Property, or a Mine—4 to 6 weeks devoted to field and underground work in the Summer School of Practical Mining, with conferences at convenience of professor.

XVII—Examination of a Coal-Washing Plant, or an Ore-Dressing Plant—4 to 6 weeks' work in the mill and in the laboratory, with conferences.

XVIII—Special Problems and Original Investigations in Ore-Dressing and Mining as Assigned—With conferences, laboratory and field work as required.

Equipment

MINING MUSEUM—The subject of mining is illustrated by collections of mine maps, working drawings, diagrams, photographs, models, mining tools, mining machines, ores and products of dressing works, and surveying apparatus.

Maps of coal and metal mines of this and other countries. Working drawings, diagrams, and photographs of mine plant, and of mining and dressing machinery. Models of mines; of shafts, tunnels, and galleries, illustrating methods of sinking, driving, timbering, tubbing, and walling. Models of deep-boring apparatus, shaft head gear, hoisting engines, man engines, pumps, ventilators, safety cages, mine cars, crushers, stamps, ore washers, shaking tables, and other dressing machines. Mining tools and mining machines; picks, shovels, sledges, drills, blasting apparatus, lamps, safety lamps, anemometers, hand-power and machine drills. Ores and dressing products from Clausthal, Lake Superior, Missouri, and elsewhere. Surveying instruments, geological compasses and clinometers, attraction compasses, dipping needles, hanging compasses and arcs, transits, lamp signals, rods, and apparatus for plumbing and measuring shafts.

Owing to lack of room the greater part of these collections are not on exhibition at present.

LECTURE ILLUSTRATIONS—The lectures on mining are illustrated by over 1600 blue prints from negatives made for the purpose. These prints are collected in scrap-books illustrating the different courses of lectures, and each student has the use of one of these books for reference during the lecture, and for home study. These blue prints have many advantages over the usual form of lecture illustrations by lantern slides or wall diagrams. The latter are, however, used when necessary to supplement the blue prints.

ORE-DRESSING LABORATORY—Contains crushing and concentrating machinery, and the necessary apparatus for sampling and testing ores.

MINES AND DRESSING WORKS—Numerous coal, iron, and other mines, slate, and stone quarries, are easily accessible from New York in from one to four hours by rail. Magnetic iron mines in New York, New Jersey, and Pennsylvania; hematite mines and stone quarries in the same states, and in Connecticut; anthracite mines in Pennsylvania; zinc mines in New Jersey and Pennsylvania. New York and adjacent states produce each year more than half the pig-iron and coal, and over one third of the total value of the mineral product of the whole country. New York City is the headquarters of numerous corporations operating mines and metallurgical works in this and other countries, and is one of the most important mining centres of the world. Within a radius of one hundred miles of New York City may be studied the best practice in mining under most varied conditions, and the most modern and effective mining and dressing machinery in the country. By going a little farther one may reach the bituminous coal regions and natural gas and oil fields in one direction, and the pyrites deposits and granite and marble quarries of Vermont and Canada in the other; while the excursions of the summer class in mining extend as far as the gold, silver, copper, and iron regions of Colorado, Montana, and Michigan.

Music

EDWARD ALEXANDER MACDOWELL, Mus. Doc.....*Professor*

General Statement

The courses in this department fall into two divisions: the technic of musical composition, and general musical culture. The aim of the technical courses is to teach music theoretically and scientifically with a view to training musicians competent to teach and to compose. In the general courses, music is treated historically and æsthetically as an element of liberal culture; the technical side of the art is explained and the lectures are supplemented by illustrations, analysis and some practical class work, such as cultivation of the sense of pitch, rhythm, and musical dictation. All the courses are given at Carnegie Music Hall.

Courses

I—GENERAL MUSICAL CULTURE—The origin of music and its relation to speech and the emotions. Primitive music and instruments. The history of music from the earliest times up to the XIXth century. Acoustics; harmony, counterpoint and fugue; form; analysis; musical instruments in use up to the present century, with practical illustrations; musical dictation and cultivation of the sense of pitch and rhythm. Open to properly qualified seniors in Columbia College as an elective, and also to all properly qualified university students; and, with the consent of the dean of the College, to all properly qualified students of the College. This course, while outlining the purely technical side of music, aims at giving a general idea of music from its historical and æsthetic side. In connection with course II, which will be given in 1897–1898, courses I and II give a complete survey of the subject. 2 hours. Professor MACDOWELL

II—This course treats of the development of forms, the song, romanticism, instrumental development and the composers for piano-forte, revolutionary influences, the virtuoso, modern orchestration and symphonic forms, the music drama, impressionism versus absolute music, and color versus form, the relationship of music to the other arts, musical criticism. Professor MACDOWELL

Not given in 1896–97

III—LECTURES AND CLASS-WORK—This course treats of general theory, dictation, harmony, comprising chords and their mutual significance, altered chords, suspensions, modulation, imitation, analysis, and the commencement of composition in the smaller forms. Open to all properly qualified university students, and, with the consent of the dean of the College, to all properly qualified students of the College. This course, in connection with courses IV and V, constitute a three-years' study of the subject. 2 hours. Professor MACDOWELL

IV—LECTURES AND CLASS-WORK—This course treats in the first term of strict counterpoint, canon, choral figuration and fugue. In the second term of free counterpoint, canon and fugue, analysis, commencement of composition in the larger forms. The first term is confined to vocal writing, and, with course

III, may be considered as a preparation for the second term, which includes instrumental writing. Open to all students who have taken course III, and to such persons, otherwise qualified, as can demonstrate to the professor of Music, by examination or otherwise, that they are competent to profit by it. 2 hours. Professor MACDOWELL

V—LECTURES AND CLASS-WORK, WITH PRACTICAL ILLUSTRATIONS—This course treats of free composition, analysis, instrumentation, symphonic forms. In this course all the orchestral and other instruments are considered individually and collectively, and their technique, possibilities, and limitations are demonstrated. Open to all students who have taken courses III and IV, and to all persons otherwise qualified who can demonstrate to the professor of Music, by examination or otherwise, that they are competent to profit by it. 2 hours. Professor MACDOWELL

These courses are supplemented by a series of lectures by prominent men on musical history, opera, modern orchestral composers, programme music, folk-song and nationality in music, the virtuoso in art, piano playing and methods of teaching, the psychological aspect of music, Wagner and the music drama, color in music, acoustics, and the like.

These lectures should be attended by all students taking courses in music.

Equipment

A collection of music and books of reference is placed at the disposal of students. It includes orchestral scores by Haydn, Mozart, Beethoven, Weber, Mendelssohn, Schumann, Raff, Liszt, Goldmark, Godard, St. Säens, Nicodé, Tschaïkowsky, Rimsky-Korsakow, Wagner, the piano-forte classics and vocal music, theoretical works and histories by Riemann, Langhans, Rowbotham, Savard, Bazin, Gavaert, and many others, besides biographical works.

Neurology

M. ALLEN STARR, M.D. ..... *Professor*
FREDERICK PETERSON, M.D. ..... *Chief of Clinic*
WILLIAM H. CASWELL, M.D. ..... *Clinical Assistant*
MORTON R. PECK, M.D. ..... *Clinical Assistant*
PEARCE BAILEY, M.D. ..... *Clinical Assistant*
LOUIS F. BISHOP, M.D. ..... *Clinical Assistant*
C. E. ATWOOD, M.D. ..... *Clinical Assistant*
A. W. FERRIS, M.D. ..... *Clinical Assistant*
LEWIS A. CONNOR, M.D. ..... *Clinical Assistant*
WILLIAM B. NOYES, M.D. ..... *Clinical Assistant*
ARCHIBALD CAMPBELL, M.D. ..... *Clinical Assistant*

Courses

I—THE DISEASES OF THE MIND AND NERVOUS SYSTEM—Didactic lectures. 1 hour for five months with demonstrations, illustrated with the magic-lantern, of the pathology of nervous diseases. Professor STARR

Required, in the third and fourth years, of candidates for the degree of M.D.

II—Clinical Lectures at the Vanderbilt Clinic—At these clinics all forms of nervous disease, including insanity, are demonstrated. During the months of didactic instruction the clinics are so arranged as to illustrate the clinical side of the subject lectured upon. 1 hour. F. at 2 P.M. Professor Starr

Required, in the fourth year, of candidates for the degree of M.D.

III—Practical Instruction in Neurology—"Section teaching," by the chief of Clinic, at which a division of fifteen students is taught the practical examination of nervous patients, including electro-diagnosis and electro-therapeutics. 6 lessons for each student in the Vanderbilt Clinic. Dr. Peterson

Required, in the fourth year, of candidates for the degree of M.D.

IV—Insanity—4 clinics at the Ward's Island Insane Asylum. Dr. Peterson

Optional, in the third or fourth years, for candidates for the degree of M.D.

Normal Histology

(See page 120)

Obstetrics

James W. McLane, M.D.....*Professor*
Ervin A. Tucker, M.D.....*Tutor*
George L. Brodhead, M.D.....*Instructor*

Courses

I—Theory and Practice of Obstetrics—Lectures. 3 hours from October 1st to March 15th. Professor McLane

Required, in the third year, of candidates for the degree of M.D.

II—Recitations and Demonstrations—1 hour, for each student in the second year of the new curriculum. One sixth of the class receives instruction daily, by recitations and demonstrations, in which specimens and models from the anatomical, physiological, and pathological museums are used. Dr. Tucker

Required, in the second year, of candidates for the degree of M.D.

III—Practical Instruction at the Sloane Maternity Hospital—Members of the graduating class in medicine are required each to attend at this hospital a certain number of cases of labor. For this purpose the students of the third year are divided, at the beginning of the academic year, into sections of eight, each section remaining on duty for one week. During this time they are furnished with lodgings, free of charge, on the grounds of the Medical School. Their rooms are connected with the hospital by electric wires, so that they may be summoned quickly to cases of emergency. Daily bedside instruction is given by the instructor, who is the resident physician at the Sloane Hospital, and an examination on the work of the week is held there by him every Saturday. A daily clinical lecture is also given at the hospital, and instruction upon the manikin. Dr. Brodhead

Required, in the fourth year, of candidates for the degree of M.D.

The Sloane Maternity Hospital

(See table of contents.)

This is upon the grounds of the College of Physicians and Surgeons, and the service of the hospital is under the exclusive direction of the professor of Obstetrics, the instructor being also the resident physician, as above stated.

The number of deliveries averages over nine hundred a year. These, with the obstetric operations, and the subsequent treatment of women and infants, afford invaluable bedside experience, such as is offered at no other medical school in this country.

Ophthalmology

HERMAN KNAPP, M.D.....*Professor*
CHARLES H. MAY, M.D....*Chief of Clinic and Instructor in Ophthalmoscopy*
JOHN HERBERT CLAIBORNE, M.D., *Clinical Assistant and Instructor in Refraction and Motility*
WARD A. HOLDEN, M.D.....*Clinical Assistant*
HENRY H. TYSON, M.D.....*Clinical Assistant*
JACKSON M. MILLS, M.D.....*Clinical Assistant*
EDWARD B. COBURN, M.D.....*Clinical Assistant*
CURTIS B. CARTER, M.D.....*Clinical Assistant*

Courses

I—CLINICAL LECTURES, AT THE VANDERBILT CLINIC, UPON THE DISEASES OF THE EYE—In selected cases the diagnosis is made, treatment is applied, and minor operations are performed before the class.

After the lectures, as opportunity offers, microscopic demonstrations of the pathological histology of the eye are made by Dr. Holden. 1 hour. Tu. at 2 P.M. Professor KNAPP

Required, in the third year, of candidates for the degree of M.D.

II—PRACTICAL INSTRUCTION, AT THE VANDERBILT CLINIC, IN THE USE OF THE OPHTHALMOSCOPE—6 lessons for each student. Dr. MAY

Required, in the third year, of candidates for the degree of M.D.

III—PRACTICAL INSTRUCTION, AT THE VANDERBILT CLINIC, IN THE REFRACTION AND MOTILITY OF THE EYE—6 lessons for each student. Dr. CLAIBORNE

Required, in the third year, of candidates for the degree of M.D.

IV—HOSPITAL CLINICS IN THE DISEASES AND THE OPERATIVE SURGERY OF THE EYE AT THE NEW YORK OPHTHALMIC AND AURAL INSTITUTE, 44 and 46 East 12th Street. Wed. from 2 to 3.40 P.M. To these clinics the students are invited in sections. Professor KNAPP

Required, in the third year, of candidates for the degree of M.D.

Oriental Languages

RICHARD J. H. GOTTHEIL, Ph.D. ..... *Professor*
A. V. WILLIAMS JACKSON, Ph.D. ..... *Professor*
ABRAHAM YOHANNAN, A.M. ..... *Lecturer*

All the courses in Oriental languages are open to women on the same terms as to men. Women wishing to enter any of the courses as special students or as candidates for a degree must register through Barnard College.

SEMITIC LANGUAGES

Courses I, II, III, IV, X, XII, XIII, XV, XVI, and XVII, and the seminar, are open to seniors in Columbia College and to university students; Courses V, VI, VII, VIII, IX, XI, XIV, to advanced students only. Course I is open also to juniors in Columbia College.

All the courses in Semitic Languages except the seminar are open to auditors.

Courses in Hebrew

The course in Hebrew extends over three years. The first year is devoted to the study of the elements; the second, to the study of the syntax and the acquiring of ease in translating from Hebrew into English, and from English into Hebrew; the third, to a critical study of one or more books of the Bible.

The attention of students in the College is directed to the fact that it is desirable that those who intend entering a theological seminary after graduation shall have had at least two years' previous training in Hebrew. Opportunity for this training is given the students of Columbia College, Hebrew being an elective in both the junior and senior classes.

I—BIBLICAL HEBREW, Elementary Course. Harper's *Hebrew Method* and *Manual;* Harper's *Elements of Hebrew.* 2 hours. Professor GOTTHEIL

II—BIBLICAL HEBREW, Second Course. Rapid reading of selected Psalms in connection with Gesenius' *Hebräische Grammatik* and Driver's *Hebrew Tenses.* 2 hours, first term. Professor GOTTHEIL

III—BIBLICAL HEBREW, Third Course. First term: lectures on Semitic archæology, with especial reference to its bearing upon the study of the Bible. Second term: Critical Study of the Book of Job. 2 hours. Professor GOTTHEIL

IV—RABBINICAL HEBREW. Interpretation of selected portions of the Mechilta. 2 hours, first term. Professor GOTTHEIL

V—RABBINICAL HEBREW. Interpretation of a treatise of the Talmud, with an introduction to the Talmudic literature. 2 hours, second term. Professor GOTTHEIL

For courses IV and V, a previous knowledge of Biblical Hebrew is demanded.

VI—RABBINICAL HEBREW. Lectures on post-Talmudic Hebrew literature. 1 hour, second term. Professor GOTTHEIL

Courses in Semitic Epigraphy

VII—Interpretation of the Phœnician Inscriptions, with an introduction to Semitic epigraphy. 1 hour. Professor Gottheil

VIII—Interpretation of the Aramæan Inscriptions of Sinjirli (*Mittheilungen aus den Orientalischen Sammlungen*, Heft xi, Berlin, 1893), and of the *Corpus Inscriptionum Semiticarum*, vol. ii. Professor Gottheil
Given in 1897–8.

IX—Interpretation of the Sabæan and Himyaritic Inscriptions of the *Corpus Inscriptionum Semiticarum*, vol. iv. Professor Gottheil
Given in 1898–9.

For courses VII and VIII, which are open to advanced students only, a previous knowledge of Hebrew and Aramæan respectively is demanded; for course IX, a previous knowledge of Arabic.

Courses in Assyrian

X—Elementary Course. Study of the Syllabary, with readings from selected portions of Abel and Winkler's *Keilschrifttexte zum Gebrauch bei Vorlesungen*, and a study of Delitzsch's *Assyrian Grammar*. Professor Gottheil
Given in 1897–8.

XI—Advanced Course. The Babylonian accounts of the creation and flood (Paul Haupt, *Das Babylonische Nimrodepos*, and Fr. Delitzsch, *Assyrische Lesestücke*). Assyrian Syllabaries. Professor Gottheil

Courses in Arabic

XII—Elementary Course. Study of Socin's *Arabic Grammar* with exercises in translating Arabic into English, and English into Arabic. Two hours. First term. Professor Gottheil

XIII—Second Course. Study of Brünnow's *Chrestomathie aus arabischen Prosaschriftstellern*. 2 hours. Second term. Professor Gottheil

XIV—Third Course. Advanced work. First term: Interpretation of the Qur'ān, Suras of the first period. A course of six lectures on the life of Muhammad and the rise of Islam will also be given. 2 hours. Second term. Interpretation of El-Fachri.

Courses in Syriac

XV—Elementary Course. First term: Nöldeke's *Syrische Grammatik*, in connection with selected readings from the Peshitta. Second term: Interpretation of Cureton's *Spicilegium Syriacum*. 2 hours. Professor Gottheil and Mr. Yohannan

XVI—Advanced Course. Grammar of the Neo-Syriac dialects, with easy readings. 1 hour. Mr. Yohannan

Courses in Ethiopic

XVII—Principles of the Grammar and Easy Readings, in connection with Prætorius' *Æthiopische Grammatik*. Professor Gottheil
Given in 1897–8.

Semitic Seminar

The seminar for 1896–7 will take up the study of current questions in Semitic linguistics, with especial reference to modern methods of philological research. Tuesday evening at 8.15. Professor GOTTHEIL

Attendance at the meetings of the seminar will be obligatory upon candidates for the degrees of master of arts and doctor of philosophy whose major subject is in Semitic Languages.

Course in Turkish

First term: Principles of the grammar, in connection with the study of A. Müller's *Türkische Grammatik* (*Porta Linguarum Orientalism*, pars xi). Second term: Exercises in Turkish conversation and in the reading of Turkish newspapers. 2 hours. Mr. YOHANNAN

Courses in Semitic Languages at the Union Theological Seminary

It is hoped to give full announcement of these courses in the circular soon to be issued by the departments of Oriental Languages. Such courses may be counted as part of the work required for the degrees of master of arts and doctor of philosophy.

INDO-IRANIAN LANGUAGES

The courses of instruction in this department are intended to be introductory to the study of comparative philology, and of the history of religion, as well as to the study of the history, antiquities, and literature of India and Persia and also of Armenia. The course arranged for beginners, Sanskrit I, may be taken with advantage in connection with any of the Latin, Greek, or other linguistic courses.

Courses I and II are open to seniors in Columbia College and to university students. Courses III, IV, V, VI, VII, X, and XI are open to advanced students. Courses VIII and IX are open to students pursuing one other course in the department.

All the courses in the Indo-Iranian Languages are open to auditors.

Courses

I—SANSKRIT, Elementary Course. Whitney's *Grammar*, Perry's *Primer*, Lanman's *Reader*. 3 hours. Professor JACKSON

II—AVESTAN, Elementary Course. Grammar and reading of texts. Jackson's *Avesta Series: Part I, Grammar; Part II, Texts*. 2 hours. Professor JACKSON

III—SANSKRIT, Advanced Course. First term: Manu with the Commentary of Kullūka, or a Sanskrit Drama. Second term: Introduction to the study of the Veda. 2 hours. Professor JACKSON

IV—AVESTAN, Advanced Course. Interpretation of texts, antiquities, and literature. Geldner's *Text of the Avesta*. 2 hours. Professor JACKSON

V—PĀLĪ, Elementary Course. E. Müller's *Simplified Pāli Grammar*, Elwell's *Nine Jātakas*. 1 hour. Professor JACKSON

VI—Old Persian Cuneiform Inscriptions. Spiegel's *Die altpersischen Keilinschriften*, Bartholomae's *Handbuch der altiranischen Dialekte*, Weissbach and Bang's *Die altpersischen Keilinschriften*. 1 hour. First term. Professor Jackson

This course is to run parallel with the Advanced Avestan

VII—Pahlavi, Introductory Course. C. de Harlez's *Manuel du Pehlevi*. 1 hour. Second term. Professor Jackson

This course is to run parallel with the Advanced Avestan.

VIII—Sanskrit Literature. Lectures on the Literature of the Vedic Period. 1 hour. First term. Professor Jackson

IX—Lectures on Comparative Iranian Grammar. 1 hour. Second term. Professor Jackson

Given in 1896–7 and each alternate year thereafter.

X—Zoroaster and Buddha and their Teaching. Lectures. 1 hour. Professor Jackson

Given in 1896–7 and each alternate year thereafter.

XI—Modern Persian, Introductory Course. First term: Grammar and reading. Salemann and Shukovski's *Persische Grammatik*. Second term: Interpretation of Sa'di's *Gulistan*. 2 hours. Mr. Yohannan

Course in Armenian

I—Principles of the Grammar, with Selected Readings. 1 hour. Second term. Mr. Yohannan

Lectures

A course of afternoon lectures on the literature, antiquities, and religion of ancient India and Persia, open to all students of the university and to auditors, was given during the winter of 1895–6, beginning on the first Thursday in December and continuing until March. It is intended that this course of general lectures shall be offered each alternate year thereafter.

Course in the Study of Language

Introduction to the Study of Language. 2 hours. Professors W. H. Carpenter and Gottheil

Open to all university students.

Equipment

The Columbia University Library (230,000 volumes) contains most of the important periodicals which deal with Oriental research, among them the *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, *Journal of the Royal Asiatic Society*, *Journal Asiatique*, *Journal of the American Oriental Society*, *American Journal of Philology*, *Transactions of the American Philological Association*, *Wiener Zeitschrift für die Kunde des Morgenlandes*, *Indische Studien*, *Zeitschrift für Keilschriftforschung*, *Zeitschrift für Assyriologie*, *Revue Sémitique*, *Proceedings of the Society of Biblical Archæology*, *Beiträge zur Assyriologie*, *Zeitschrift für Ægyptische Sprache*, *Revue d'Histoire des Religions*, *Revue des Études Juives*, *Orientalische Bibliographie*, *Hebraica*, a com-

plete set of the publications of the various Congresses of Orientalists, *Jewish Quarterly Review*, *Revue d'Assyriologie;* of periodicals of wider range which contain matter of interest to Orientalists, *Zeitschrift für vergleichende Sprachforschung*, Bezsenberger's *Beiträge zur Kunde der Indogermanischen Sprachen*, *Göttingische Gelehrte Anzeigen Indogermanische Forschungen;* and many weekly periodicals, such as *The Academy*, *Literarisches Centralblatt*, *Philologische Rundschau*, *Revue Critique*. The library has quite a rich collection of the publications of the learned societies of Europe—*e. g.*, of the Academies of Berlin, Vienna, Leipzig, St. Petersburg, Brussels, Paris, and Rome (Lincei).

The books relating to East Indian and Iranian subjects in the university library comprise already a good collection of the most important text-editions and works of reference, and additions are constantly being made. In Semitic philology most of the best works will be found in the library; care has been taken, especially in Assyriology, to buy all the more important publications. In the Avery Architectural Library most of the monumental works relating to Eastern art and archæology will be found. Through the generosity of the trustees of Temple Emanuel, the library now possesses the most complete collection of works in Rabbinical Hebrew to be found in this country. There is also a small collection of Hebrew and Arabic MSS., designed for the use of advanced students. The collections of the university library are supplemented in the most valuable way in all branches of Orientalia by those of the Astor library, where the privileges of an alcove-reader may be secured by the advanced student. A collection of old Babylonian tablets has been added to the department. These, together with the casts of tablets in the Metropolitan Museum of Art, furnish material for those who wish to devote themselves especially to the study of Babylonian and Assyrian.

The library of the Union Theological Seminary, which is accessible to advanced students at Columbia University, contains all the current theological periodicals—*e. g.*, Stade's *Zeitschrift für Alttestamentliche Wissenschaft*, *Theologische Litteratur-Zeitung*, *The Expositor*.

Otology

ALBERT H. BUCK, M.D.....*Clinical Professor*
WILLIAM COWEN, M.D.....*Instructor and Chief of Clinic*
ROBERT LEWIS, JR., M.D.....*Instructor*
A. G. TERRELL, M.D.....*Clinical Assistant*
MARCUS KENYON, M.D.....*Clinical Assistant*
WALTER E. LAMBERT, M.D.....*Clinical Assistant*

Courses

I—PRACTICAL INSTRUCTION IN THE DIAGNOSIS OF THE DISEASES OF THE EAR, AT THE VANDERBILT CLINIC—8 lessons for each student. Drs. COWEN and LEWIS

This instruction is given to the students in sections of ten men each, on Mondays and Fridays at 2 P.M.

II—DIADACTIC INSTRUCTION IN THERAPEUTIC METHODS AT THE VANDERBILT CLINIC—Four lectures for each student. Professor BUCK

This instruction is given to the students in sections of twenty men each, on Wednesdays at 2 P.M.

Pathology

(*Including Pathology, Normal Histology, Bacteriology, and Photomicrography.*)

T. Mitchell Prudden, M.D...*Professor of Pathology and Director of the Associated Laboratories*
George C. Freeborn, M.D.....*Instructor in Normal Histology*
Timothy Matlock Cheesman, M.D.....*Instructor in Bacteriology*
Ira Van Gieson, M.D.....*Instructor in the Normal Histology and Pathology of the Nervous System*
Eugene Hodenpyl, M.D.....*Instructor in Pathology*
John Slade Ely, M.D.....*Assistant in Pathology and Curator of the Museum of Pathology*
James Ewing, M.D.....*Tutor in Normal Histology, and Alonzo Clark Scholar*
Edwin M. Kitchel, M.D.....*Assistant in Normal Histology*
Frederick Randolph Bailey, M.D.....*Assistant in Normal Histology*
Oliver S. Strong, Ph.D.....*Assistant in Normal Histology*
Vanderpoel Adriance, M.D.....*Assistant in Normal Histology*
John H. Larkin, M.D.....*Assistant in Pathology*
John S. Thacher, M.D.....*Demonstrator in Pathology*
Edward Leaming, M.D.....*Instructor in Photography*
Harrison G. Dyar, Ph.D.....*Assistant in Bacteriology*
Philip Hanson Hiss, M.D.....*Assistant in Bacteriology*
Charles Norris, M.D.....*Alumni Association Fellow in Pathology*

General Statement

For convenience of administration, and for the better association of allied themes, the laboratories of Pathology, Normal Histology, Bacteriology and Photomicrography are grouped together in the department of Pathology under the direction of the professor of Pathology.

Courses in Pathology

I—Autopsy Technique and Pathological Anatomy—Systematic instruction in the making of autopsies with the demonstration of lesions, is given in turn to small sections of the class in preparation for the more extended study of Pathology in the third year, either at the college or at the Roosevelt, Presbyterian, or Bellevue Hospitals. Once a week for 8 weeks. Drs. Hodenpyl, Thacher, and Ely

Required, in the second year, of candidates for the degree of M.D.

II—Practical Instruction in General Pathology, Pathological Anatomy and Histology, and in Bacteriology as Applied to Medicine, is given in the large laboratory on the top floor of the north wing of the Medical School. Each student is given about one hundred sections or other permanent preparations, illustrating the more important and common lesions. These he mounts for the microscope and studies, making notes and sketches. This collection of specimens he retains for future reference.

The systematic course opens with a study of the various phases of degeneration, inflammation; tumors are next studied; then the acute infectious diseases, their lesions and their relationship to micro-organisms. The student himself prepares, stains, and studies most of the more important pathogenic germs. The remainder of the course is devoted to the systematic study of the lesions of the viscera. Each student is furnished with a microscope and the necessary instruments and reagents. Delafield and Prudden's *Handbook of Pathological Anatomy and Histology* is used in this course. 6 hours a week for one half of the academic year. Professor PRUDDEN and Drs. HODENPYL, ELY, VAN GIESON, and LARKIN

Required, in the third year, of candidates for the degree of M.D.

III—DEMONSTRATIONS IN PATHOLOGICAL ANATOMY—A demonstration is made, twice a week to the class in Pathology, in sections, of the material which may be newly gathered and from the permanent collection for the illustration of special themes. Drs. HODENPYL and LARKIN

Required, in the third year, of candidates for the degree of M.D.

IV—PATHOLOGICAL ANATOMY AND HISTOLOGY, EXPERIMENTAL PATHOLOGY, BACTERIOLOGY AS APPLIED TO MEDICINE, AND CLINICAL MICROSCOPY—A limited number of graduates in medicine, or other advanced workers, are admitted to the special laboratories for the pursuit of advanced lines of study in these themes. Professor PRUDDEN, Drs. CHEESMAN, FREEBORN, HODENPYL, VAN GIESON, ELY, and EWING

Courses in Normal Histology

I—PRACTICAL INSTRUCTION IN THE LARGE LABORATORY, on the upper floor of the north wing of the Medical School. Sections and other preparations of the simple tissues and the more important thoracic and abdominal viscera of the normal body are given to each student during the course. These he is required to mount and study under the microscope, making notes and drawings of the entire series of specimens. This collection he retains for future reference. Each student is supplied with a microscope and with a tray of instruments and reagents. Piersol's *Text-book of Normal Histology* is used in this course. 6 hours a week for one half of the academic year. Drs. FREEBORN, EWING, KITCHEL, BAILEY, and ADRIANCE

Required, in the first year, of candidates for the degree of M.D. Elective for Senior in the College.

II—PRACTICAL INSTRUCTION SIMILAR IN CHARACTER AND METHOD TO THAT UNDER I, but embracing as special themes the central nervous system, the skin, and the organs of special sense. 4 hours a week for one half of the academic year. Drs. VAN GIESON, FREEBORN, EWING, KITCHEL, BAILEY, STRONG, and ADRIANCE

Required, in the second year, of candidates for the degree of M.D.

III—PRACTICAL INSTRUCTION IN MICROSCOPIC TECHNOLOGY is given to a limited number of graduates in medicine, or other qualified workers, in the special laboratories on the fourth floor of the north wing of the college building. Dr. FREEBORN

Courses in Bacteriology

I—Practical Instruction in Bacteriology is given in the large laboratory on the upper floor of the new north side extension of the college building. This course opens with the study of the relationship of bacteria to other micro-organisms. It embraces the methods of staining, examining, and cultivating. The student is taught by practical exercises the methods of separating one species of bacteria from another, and the series of biological characters used in identification of the various forms. The general relationship of certain micro-organisms to disease is considered and illustrated. Finally some of the hygenic aspects of bacteriology are studied by experiments in the sterilization of infectious materials, disinfection of the hands, and by practice in biological air, water, milk, and soil analysis. 6 hours a week for one quarter of the academic year. Drs. Cheesman, Dyar, and Hiss

Required, in the second year, of candidates for the degree of M.D.

II—Special Laboratory Course—There is an opportunity each year for a few graduates in medicine, or other qualified workers, to receive a special course in practical bacteriology. The laboratory is abundantly supplied with apparatus for the culture and study of micro-organisms, and has under cultivation a large collection of identified species. In this course the applications of bacteriology to sanitation and to practical medicine are held in view.

Methods of preparation, staining, microscopic study, measurement, of bacteria. Preparation of culture media; study and record of observation, of selected typical species; systematic analyses for determination of unknown species; methods of isolation of species; qualitative and quantitative biological examinations of water, soil, and air; methods of determining pathogenic properties, disinfection, modes of testing value of germicides.

Text-books: Abbott's *Principles of Bacteriology*, 2d edition; Sternberg's *Bacteriology*.

This course requires attendance at the laboratory during the entire day for from 6 to 9 weeks. Drs. Cheesman, Dyar, and Hiss

Minor for the degree of A.M. or of Ph.D.

III—Laboratory Course—As under course II, with additional study and determination of known species of bacteria; special study of the chemical products formed in the growth of bacteria, practical work in photomicrography, and the pursuit of some selected theme for original investigation. Professor Prudden and Drs. Cheesman and Leaming

Major for the degree of A.M. or of Ph.D.

Research

Research in Pathology and Bacteriology may be pursued in the laboratories of this department by a limited number of graduate students or practitioners of medicine, or other advanced workers under the direction of the professor. To such men the large collection of pathological specimens preserved for microscopical study and the collection of bacterial cultures belonging to this department are accessible. Professor Prudden

Fellowships

For the Fellowships open to persons wishing to do special work under the Professor of Pathology, see page 32.

Museum

The museum of pathology is made use of in the work of this department, both for the instruction of medical students, and as a place of deposit for specimens showing new or rare forms of lesions.

Photography

Practical instruction is given to a limited number of men in the photographic laboratories of the college, in the technique of photography and photomicrography for scientific purposes.

The time necessary for the acquirement of this technique varies with the facility of the student and the hours devoted to the theme, and is subject to special arrangement.

The facilities of these laboratories may be drawn upon for purposes of record and illustration by instructors in various departments of the college and by others. Dr. LEAMING

Equipment

The department of Pathology occupied in the autumn of 1895 the large additional space which the new college buildings furnish. The large classroom on the upper floor of the north wing is used as formerly for the classes in Normal Histology and in Pathology. The fourth floor is devoted to the pathological museum and to a large preparation laboratory, a workshop, cold-storage, and the like. The new space is devoted to a general laboratory, to private rooms for instructors and advanced workers in Pathology, to undergraduate and to research work in Bacteriology, and to a departmental library.

This new space is amply lighted, fully furnished and equipped with such new apparatus as the rapidly growing sciences of pathology and bacteriology require.

Philosophy, Psychology, and Education

NICHOLAS MURRAY BUTLER, Ph.D. ..... *Professor*
JAMES MCKEEN CATTELL, Ph.D ..... *Professor*
JAMES HERVEY HYSLOP, Ph.D ..... *Professor*
LIVINGSTON FARRAND, A.M., M.D ..... *Instructor*
NORMAN WILDE, Ph.D ..... *Assistant*
CHARLES AUGUSTUS STRONG, A.B ..... *Lecturer*
JOHN ANGUS MCVANNEL, Ph.D ..... *Assistant*
WALTER LOWRIE HERVEY, Ph.D ..... *Professor in Teachers College*
JOHN FRANCIS WOODHULL, A.B ..... *Professor in Teachers College*
CHARLES ALPHEUS BENNETT, B.S ..... *Professor in Teachers College*
JOHN FRANKLIN REIGART, A.B ..... *Professor in Teachers College*
FRANK THOMAS BAKER, A.M ..... *Professor in Teachers College*

General Statement

The courses of this division fall into three groups: those on Philosophy, those on Psychology, and those on Education. In each group are courses intended primarily for undergraduates. These are best described as introductory

courses, and their aim is to furnish a general acquaintance with the main subdivisions of Philosophy, Psychology, and Education as a whole. The courses known as Philosophy A, I, and II, Psychology I, II, VIII, and X, and Education I and II, are of this character. By the use of the historical and comparative methods of study and exposition, students in these courses are introduced to a general survey of their respective subjects. While serving as introductory courses for students proposing to specialize in Philosophy, Psychology, or Education, these courses are particularly recommended to those students of law, medicine, political science, natural science, or theology, who wish to acquire some knowledge of Philosophy, Psychology, and Education as part of a liberal education, or as supplemental to their own special lines of study.

The remaining courses in each group are intended primarily for advanced students. These courses may be taken only by those who have had the introductory courses, or their equivalent at some other university. The advanced courses are planned with reference to each other, and a student remaining three years in the division may pursue courses that cover the entire range of modern philosophy, psychology, and education.

Seniors in Columbia College and in Barnard College may, with the permission of the President, elect Education V, VI, VIII, IX, X, and XI, given at the Teachers College, and count the same as part of the work required for the degree of bachelor of arts.

A select number of advanced students, usually candidates for university degrees, are admitted to the seminars organized for training in research.

All of the courses offered by this division, except Philosophy A and Pyschology VII, X, and XI, are open to women on the same terms as to men. Women wishing to enter any of the courses as candidates for a degree or as special students must register through Barnard College.

All of the courses, except Philosophy A, Psychology VII, X, and XI, and the several seminars, are open to auditors on the usual terms.

More particular and detailed information regarding the courses offered may be obtained from the divisional circular.

Courses in Philosophy

A—PSYCHOLOGY AND LOGIC—Hyslop's *Syllabus for Psychology*, James's *Principles of Pyschology*, Hyslop's *Elements of Logic*—Lectures, practical exercises, and recitations. 2 hours. Professor HYSLOP and Dr. WILDE

[In 1897-8 and thereafter this course will be given three times weekly for the first term, and will be required of all juniors in the College. It will be followed during the second term by an elective course in Applied Logic and Scientific Method, three hours weekly.

This course is required of all members of the Junior class in Columbia College, and must be taken by all university students who desire to enter the advanced courses, unless they have had an equivalent course elsewhere.

I—HISTORICAL INTRODUCTION TO PHILOSOPHY—Windelband's *History of Philosophy*, Zeller's *Outlines of Greek Philosophy*, and Falckenberg's *History of Modern Philosophy*—Lectures, essays, and private reading. 2 (or 3) hours. Professor BUTLER and Dr. WILDE

This course serves as a general introduction to the study of philosophy and is prerequisite to courses III and IV.

The third hour in this course (W. at 1.30) is devoted to recitation and discussion. It is not taken by those students who count Philosophy I as a two-hour course.

II—Ethics, Introductory Course—Lectures, essays, and discussions. 2 hours. Professor Hyslop and Dr. Wilde

This course is pre-requisite to courses VI and VII.

III—The Philosophy of Kant and his Successors: Fichte, Schelling, Hegel, Herbart, and Schopenhauer—Lectures, essays, and private reading. 2 hours. Professor Butler

Open only to students who have had courses A and I or their equivalent.
Given in 1897–8, and each alternate year thereafter.

IV—British Philosophy from Locke to Herbert Spencer: history and criticism of the association psychology and the philosophy of evolution—Locke's *Essay on the Human Understanding*, Berkeley's *Principles of Human Knowledge*, Hume's *Treatise of Human Nature;* the writings of Hartley, Brown, the Mills, and Bain; Herbert Spencer's *First Principles*—Lectures, essays, and private reading. 2 hours. Professor Butler

Open only to students who have had courses A and I or their equivalent.
Given in 1896–7, and each alternate year thereafter.

V—History of English Ethics—Lectures, essays, and discussions. 1 hour. Dr. Wilde

VI—Systematic Ethics—Lectures, discussions, and essays. 2 hours. Professor Hyslop

Open only to students who have taken courses A and II or their equivalent.
Given in 1896–7, and each alternate year thereafter.

VII—Practical Ethics—Lectures, private reading, observation, essays, and discussions. 2 hours. Professor Hyslop

Open only to students who have taken courses A and II or their equivalent.
Given in 1897–8, and each alternate year thereafter.

VIII—Journal Club—Reports and discussions. 1 hour. Dr. Wilde.

Cannot be counted for a degree.

Seminars

Ethical Seminar—One session weekly. Professor Hyslop

Philosophical Seminar—Two sessions each month. Professor Butler

Courses in Psychology

I—Introduction to Psychology—Lectures and demonstrations—2 hours. Professors Butler, Cattell, Starr, and Hyslop, Drs. Farrand and Wilde, and Mr. Strong

The object of this course is to give a summary view of the subject-matter and methods of modern psychology. The ground covered is as follows:

A. Prolegomena to Psychology, including a sketch of the history of psychology. Six lectures. Professor Butler

B. Representative Modern Psychologists. Seven lectures. Dr. Wilde

C. Physiological Psychology. Eight lectures. Dr. Farrand

D. Experimental Psychology. Eight lectures. Professor Cattell

E. Comparative Psychology. Eight lectures. Professor Cattell and Dr. Farrand

F. Pathological Psychology. Three lectures. Dr. Starr

G. General Psychology. Eight lectures. Professor Hyslop

H. Philosophical Psychology. Six lectures. Mr. Strong

II—Experimental Psychology, Introductory Course—Lectures, themes, and laboratory work. 2 hours. Professor Cattell

III—Experimental Psychology—Laboratory work. 2 hours. Professor Cattell

IV—Mental Measurement—Lectures, laboratory work, and reports. 2 hours. Professor Cattell

The subject of this course is proposed for 1896–7 only, the course being altered each year, so that candidates for the higher degrees may be able to investigate different subjects.

V—Research Work in Experimental Psychology—Daily, Psychological laboratory. Professor Cattell

VI—General Psychology, Advanced Course—Lectures, discussions, and private reading. 2 hours. Mr. Strong

Open only to students who have taken Philosophy A and who have taken or are taking Philosophy I.

VII—Diseases of the Mind and Nervous System—Lectures and demonstrations. 1 hour. At College of Physicians and Surgeons. Professor Starr

This course extends through two years. One year (1896–7) is devoted to the study of the diseases of the spinal cord and functional nervous diseases. This part of the course is of interest chiefly to students of medicine. In the second year (1897–8) diseases of the brain and insanity are treated.

VIII—Physiological Psychology, General Course—Lectures, demonstrations, and laboratory work. 3 hours. Dr. Farrand

This course is especially recommended to intending students of medicine.

IX—Abnormal and Pathological Psychology—Lectures and discussions. 1 hour, first term. Dr. Farrand

X—Anthropology, General Introductory Course—Lectures, essays, and discussions. 2 hours. Dr. Farrand

The first half of this course is given by Dr. Ripley in the Faculty of Political Science.

XI—Anthropology, Primitive Culture—Lectures, papers, and discussions. 2 hours. Dr. Farrand

Courses in Education

I—History of Educational Theories and Institutions: Aristotle and the ancient educational ideals, Alcuin and the rise of the Christian schools, Abelard and the foundation of the universities, Loyola and the educational system of the Jesuits; the educational reformers, Rousseau, Pestalozzi, and Froebel; Herbart and modern theories of education—Conferences, occasional lectures, essays, and private reading. 1 hour. Professor Butler

II—Principles of Education: psychology of childhood, didactics—Conferences, occasional lectures, essays, and private reading. 1 hour. Professor Butler

Seminar

EDUCATIONAL SEMINAR—weekly sessions. Professor BUTLER

The following courses are given at the Teachers College 120th Street, West, between Amsterdam Avenue and the Boulevard :

IV—SEMINAR—Subject for 1896–7: Theoretical and practical problems arising out of the co-ordination and relative value of studies. 1 hour. Professor HERVEY and the FACULTY OF TEACHERS COLLEGE

V—ELEMENTS OF PSYCHOLOGY AND GENERAL METHOD. 4 hours, including observation. Professor REIGART

VI—ADVANCED PSYCHOLOGY AND GENERAL METHOD. 1½ hours. Professor REIGART

VII—INSTITUTES OF EDUCATION—Laurie's *Institutes of Education*, Rosenkranz's *Philosophy of Education*, Herbart's *Science of Education*, Rein's *Outlines of Pedagogics*—Lectures, essays, and private reading. 1 hour. First term. Professor HERVEY

Not given in 1896–7.

VIII—METHODS OF TEACHING ENGLISH LITERATURE IN SECONDARY SCHOOLS—Lectures, discussions, and private reading, 2 hours, first term. Professor BAKER

IX—METHODS OF TEACHING HISTORY IN SECONDARY SCHOOLS. 1½ hours, first term. Professor REIGART

X—METHOD OF TEACHING LATIN AND GREEK IN SECONDARY SCHOOLS. 1½ hours, second term. Professor HERVEY

XI—METHODS OF TEACHING MATHEMATICS IN SECONDARY SCHOOLS. 1½ hours, second term. Professors HERVEY and WOODHULL

An additional hour for observation to be arranged.

XII—SCIENCE—Methods of teaching chemistry, physics, and physiology in secondary schools. 3 hours. Professor WOODHULL

XIII—METHODS OF TEACHING MANUAL TRAINING IN ELEMENTARY AND SECONDARY SCHOOLS—Lectures, essays, reports, and private reading. 2 hours first term. Professor BENNETT

XIV—METHODS OF TEACHING IN ELEMENTARY SCHOOLS—Observation and study of the teaching in the grades of the elementary school ; practice and criticism. 2 hours. Professor MELENEY

XV—SCHOOL SUPERVISION AND SCHOOL MANAGEMENT IN STATE AND CITY SCHOOL SYSTEMS. 3 hours. Professor MELENEY

XVI—READING AND DISCUSSION OF GERMAN AND FRENCH WORKS ON EDUCATION IN THE ORIGINAL TEXT—Lectures, essays and discussions. 2 hours.

Equipment

The equipment of the division is very complete and constantly being increased. It includes library facilities, laboratories of experimental and physiological psychology, a school of observation and practice, and the beginnings of an educational museum.

Every journal of importance, American and foreign, dealing with philosophy, psychology, ethics, or education, is taken regularly by the university library. Any book needed by an advanced student can usually be bought at once.

Students of Education have also at their disposal the Bryson Library at Teachers College, W. 120th St., Morningside Heights. The collection now numbers more than 5000 volumes, and is constantly being added to. The main purpose of the library is to afford special students of Education opportunities for study and research.

The psychological laboratory is situated on the fourth floor of the building known as the President's House, and consists of a lecture-room and general laboratory, and three smaller rooms for special research, including a dark room for work on vision. The small rooms allow students to work alone and without interruption at all hours during the day. The laboratory has windows to the north, east, south, and west, and is supplied with electric light for experimental purposes and electric power.

The collection of psychological apparatus is, perhaps, not surpassed by any in this country or in Europe. Four thousand five hundred dollars have recently been appropriated for this collection by the Trustees of the University, and, in addition, apparatus which cost $1200 is in use. The apparatus has been secured with a view to a series of experiments, such as is carried out by the students attending the introductory course, and with a view to special researches.

The exceptionally fine collection of apparatus belonging to the department of Physiology is also available for the use of students in this department.

For students of Education an opportunity for observation and practice in teaching is afforded that is quite unique either in this country or Europe. This is given in the school of observation and practice known as the Horace Mann School, which is maintained by Teachers College for this purpose. In this school every phase of school work, including the high school as well as the kindergarten and the elementary school, is to be found in operation. Opportunities for practice in teaching and supervision are afforded to qualified students.

Physics

OGDEN N. ROOD, A.M. ..... *Professor*
WILLIAM HALLOCK, Ph.D. ..... *Adjunct Professor*
REGINALD GORDON, A.B. ..... *Instructor*
HERSCHEL C. PARKER, Ph.B. ..... *Tutor*
CHARLES C. TROWBRIDGE, B.S. ..... *Tutor*
HENRY S. CURTIS, A.B. ..... *Assistant*
HERBERT T. WADE, A.B. ..... *Assistant*
HENRY E. KEYES, Ph.D. ..... *Assistant*
THEODORE G. WHITE, Ph.B., A.M. ..... *Assistant*
DANA C. WELLS, A.B., E.E. ..... *Assistant*

Courses

I—GENERAL PHYSICS—Sound and Heat (first term). Light and Electricity (second term). 3 hours lectures and recitations. Professor ROOD and Mr. GORDON

Required of all first-year students in the Schools of Mines, Chemistry, and Engineering. Open to seniors in the College, with 2 or 4 hours laboratory work.

II—Sound (first term)—Magnetism and Electricity (second term)—2 hours lectures, 2 or 6 hours laboratory work. Text-books: Atkinson's Ganot and Stewart and Gee's Physics. Professor Rood

Open to juniors and seniors in the College, and to candidates for the degree of A.M. whose minor subject is Physics.

III—Electricity (first term)—Lectures on absolute system of mechanical and electrical units; electrical measurements; the derivation and use of the Ampere, Volt, Ohm, Watt and Joule.

Exact Electrical Measurements (second term)—Lectures on the Farad, Coulomb, and units of electric and magnetic induction; electrical and magnetic measurement in the laboratory. 2 hours lectures, 8 hours laboratory. Text-books: Everett's C. G. S., System of Units, Glazebrook and Shaw's Physics, Kohlrausch's Physical Measurements, Widemann and Eberts' Physics, and A. Witz's Physics. Professor Hallock

Required of second-year students in the Electrical Engineering course. Second-year students in the Schools of Mines, Chemistry, and Engineering, are required to attend the lectures of the first term, and to take 2 hours of laboratory work during both terms. Open to seniors, in the College, and to candidates for the degree of A.M. whose minor subject is Physics. Pre-requisite: I or II with 2 hours laboratory work.

IV—Light (first term)—Lectures on the velocity, reflection, refraction, and dispersion of light. Achromatism, optical instruments, the eye, and Young's theory of color. Physical measurements in the laboratory.

Heat (second term)—Lectures on the expansion of solids, liquids, and gases; on conduction, specific heat, tension of vapors, and radiant heat. Physical measurements in the laboratory. 3 hours lectures, 2 or 4 hours laboratory. Text-books: Stewart and Gee, and Glazebrook and Shaw's Physics. Professor Rood

Open to seniors in the College, and to candidates for the degree of A.M. whose minor subject is Physics.

V—Modes of Constructing and Designing Apparatus (first term). 1 hour. Professor Hallock

Open to juniors and seniors in the College, to second-year students Schools of Mines, Chemistry, Engineering, and Architecture, and to university students. Pre-requisite or parallel: course II, III, or IV.

VI—The Steam Engine (second term). 1 hour. Mr. Gordon

Open to juniors and seniors in the College. Pre-requisite or parallel: course II or IV.

VII—Electrical Manipulation (first term). 1 hour. Theoretical Comparison of Electrical Methods (second term). 2 hours. Mr. Parker

Open to candidates for the degree of Electrical Engineer, to seniors and university students. Pre-requisite or parallel: III or IV.

VIII—Undulatory Theory of Light (second term). 2 hours lectures. Professor Hallock

Open to seniors and university students. Pre-requisite or parallel: course IV of 7 hours.

Laboratory Courses

IX—Electromotive Force of Standard and Constant Cells.

X—Study of Strength of Electric Currents.

XI—Study of Elasticity of Solid Bodies.

XII—Calorimetry and Absorption Spectra.

XIII—Photometry.

Open, with 5 hours laboratory work, to candidates for the degree of A.M., or, with 8 hours laboratory work, to candidates for the degree of Ph.D., whose minor subject is Physics. Pre-requisite: course II of 4 hours.

XIV—Calibration of Wheatstone Bridges.

XV—Hypsometry.

XVI—Determination of Index of Refraction by Special Methods.

XVII—Quantitative Examination of the Discharge of the Induction Coil.

XVIII—Viscosity of Solids.

Open to candidates for the degree of A.M., or, with 10 hours laboratory work, to candidates for the degree of Ph.D., in their first year, whose major subject is Physics. Pre-requisite: courses II and IV of 8 and 7 hours.

XIX—Galvanometer Construction for Maximum Efficiency.

XX—Advanced Course in Spectrometry.

XXI—Ballistic-Galvanometer Work, Inductance.

XXII—Calorimetry.

XXIII—Radiant Heat.

XXIV—Interference of Light.

XXV—Polarized Light.

XXVI—Acoustic Measurements.

XXVII—Thermo-Electricity.

XXVIII—Measurement of Low Resistance.

XXIX—Electrical Insulation.

Professors Rood and Hallock, Messrs. Gordon and Parker

Open, with 10 hours laboratory work, to candidates for the degree of Ph.D., in their first year, whose major subject is Physics. Pre-requisite: courses II and IV of 8 and 7 hours.

Original research, conducted under the direction of Professors Rood and Hallock, is open to candidates for the degree of Ph.D., in their second year, whose major subject is Physics.

Equipment

The physical laboratory consists of six rooms devoted to physical measurements; some are arranged and used for optical and electrical purposes, others for special researches. The laboratory throughout is supplied with the street current of the Edison incandescent system, and all the ordinary conveniences. Among the pieces of apparatus the following may be specially mentioned:

For measurements of length there are three linear and three circular dividing engines of various designs; a Geneva Society comparator, and dividing engine; a Grunow cathetometer, spherometer, and optical lever, and micrometers of many kinds. For measurements of mass there are provided eight balances with weights, specific-gravity apparatus, hydrometers, areometers, Westfall and Jolly balances, and the various forms of vapor-density apparatus.

Standard mercurial barometers, aneroid and Mariotti barometers, Kater's and Borda's pendulums, and apparatus for studying elasticity are provided.

Also a monochord, Quincke's apparatus, Kundt's dust-figure apparatus and sets of organ pipes and tuning-forks for the study of sound.

Thermometers and apparatus for their calibration, and zero and boiling points, are supplied; there is also apparatus for determination of coefficients of expansion, for latent and specific heat, and calorimetry.

The optical rooms are furnished with eight spectrometers of different designs, small telescopes, opera-glasses, eight compound microscopes, sets of lenses, prisms, and gratings, two goniometers, sextant, optical benches, photometers, saccharimeters, total reflectometers, and apparatus for calorimetry, polarized light, and spectroscopy.

In the rooms devoted to electricity are nine galvanometers of various patterns, high and low resistance, ballistic and dampened; electrometers, magnetometers, rheostats and bridges of all types; condensers, batteries, keys, arc and incandescent lamps, ammeters and voltmeters, and four standard ohms.

The workshop is furnished with a lathe, planer, grinding head, vises, carpenters' and machinists' bench, and tools for work in metal, wood, and glass.

Advanced students are taught and encouraged to repair, altar, and construct apparatus needed for their special work.

Physiology

JOHN GREEN CURTIS, M.D ..... *Professor*
FREDERIC SCHILLER LEE, Ph.D..... *Adjunct Professor and Demonstrator*
RICHARD HOOP CUNNINGHAM, M.D..... *Assistant Demonstrator and Alumni Association Fellow*
REID HUNT, Ph.D., M.D..... *Tutor in Physiology*

Courses

I—GENERAL PHYSIOLOGY—Structure of protoplasm; physiology of the cell; physiological division of labor and evolution of special functions; irritability; contractility; heliotropism; geotropism; chemotropism; general principles of secretion; the nerve cell; the nerve impulse; reflex action; the germ cells. Lectures, 1 hour. Professor LEE

Open to qualified candidates for the degree of M.D.

Open as an elective to seniors who have had at least one year of General Biology, and, in conjunction with course III, to such seniors and to qualified candidates for the degree of A.M. or of Ph.D.

II—THE PHYSIOLOGY OF MAN AS RELATED TO THAT OF OTHER MAMMALS AND OF LOWER VERTEBRATES—Lectures and demonstrations. 4 to 6 hours. This course treats of different portions of its subject in alternate years, certain introductory lectures only being repeated annually. Professors CURTIS and LEE and Drs. CUNNINGHAM and HUNT

Required, in the first and second years, of candidates for the degree of M.D.

Open as an elective to seniors in Columbia College (and, in conjunction with course IV) to qualified candidates for the degree of A.M. or of Ph.D.

III—Laboratory Course in General Physiology. 5 hours. Professor Lee and Dr. Hunt

Open to qualified candidates for the degree of M.D., and, in conjunction with course I, to seniors who have had at least one year of General Biology, and to qualified candidates for the degree of A.M. or of Ph.D.

IV—Laboratory Courses—Personal instruction, private reading, practical work and research. Professors Curtis and Lee and Drs. Cunningham and Hunt

Open to qualified candidates for the degrees of M.D., A.M., and Ph.D.

Research

V—The Laboratory is open for research, under the direction of its officers, to advanced workers. Professors Curtis and Lee and Drs. Cunningham and Hunt

Fellowships

For the Alumni Association fellowships open to persons desiring to do special work in the department of Physiology and for the university fellowships, also open as above, see pages 32 and 26.

Marine Laboratory

An investigator's room at the Marine Biological Laboratory at Wood's Holl, Mass., has been provided by the University for the use of the department of Physiology.

This renders possible, during the summer, researches upon the physiology of the marine fauna.

Equipment

The department of Physiology possesses:

(1) A laboratory, for research and the preparing of demonstrations, covering 1769 square feet and lighted on three sides.

(2) A small laboratory for histological research with special reference to physiological problems.

(3) Two rooms for optical or psychological work or for photography, communicating with the above laboratory and with one another. One of these has a free southerly exposure for the heliostat.

(4) Two private laboratories for the professors of the Department.

(5) The Swift Physiological Cabinet, for the accommodation of a specially endowed and very full collection of apparatus of precision, mainly for research.

(6) A laboratory for practical instruction.

(7) A room for lectures and demonstrations to limited classes.

(8) Easy access to a large lecture-room, specially fitted for experimental teaching.

The physiological journals in English, German, and French are accessible at the laboratory to advanced students; also the most important monographs and other books both modern and ancient. Weekly meetings are held and reports are made by members of the department upon recent physiological literature.

A skilled mechanic is employed to devote his entire working time, at the laboratory, to the care and improvement of the plant, including the making, altering, and repairing of special apparatus. He also assists in the scientific manipulations.

The following machines and apparatus deserve mention:

An upright seven-horse-power steam-engine, mounted against a pier upon an iron bracket, to avoid floor-vibrations, and working a shaft which runs the whole length of the main research laboratory; an electric motor and shafting in the laboratory for practical instruction; two steam lathes; apparatus worked by steam for artificial respiration; Ludwig's "Schlagwähler"; kymograph for a long roll of paper, and high-speed drum kymograph, both worked by steam; high-speed drum kymograph worked by weights; two drum kymographs of the spring pattern; eight high-speed drum kymographs, worked by the electric motor; two single drums, to be revolved by hand; four "Basel stands" for the fine adjustment of recording levers: Zeiss scales and other instruments for reading and measuring curves, including a planimeter; electro-magnetic chronographs and control hammer; seconds pendulum; interrupter clock; automatic dry-contact tuning-forks; short-beam quantitative balance; copper voltameter; milliampère and ampère-meters; Wiedemann-duBois galvanometer, with coils of high and low resistance; Hauy's bar, telescope, and milk-glass scale; capillary electrometers; ohmmeter for resistances of from 0.001 to 200,000 ohms; Edelmann's faradimeter; nine horizontal and two upright duBois induction coils; a complete collection of duBois-Reymond's other apparatus; moist chambers and muscle levers; upright rheochord; mechanical tetanomotor; differential rheotome; Marey's tambours, cardiographs, stethograph, and explorer of the human muscles; sphygmographs; plethysmograph; two single and one double recording mercurial manometers; spring manometer; tonographs; "stromuhr"; frog-heart apparatus; thermo-electric apparatus; constant-pressure injection apparatus; two mercurial gas pumps; large spectroscope; direct vision spectroscope; Ladd spectroscope; four micro-spectroscopes; heliostat; sixteen microscopes and accessories; Thoma's microtome; Anschütz's "Schnellseher"; numerous instruments and models for the investigation and demonstration of the physiology of sight and hearing; casts and models of the brain; Dalton's apparatus for making sections of the human brain.

Political Economy and Finance

(See page 61)

Political Philosophy

(See page 88)

Portuguese and Rumanian

(See page 138)

Practice of Medicine

FRANCIS DELAFIELD, M.D, LL.D.....*Professor*
WILLIAM H. DRAPER, M.D.....*Professor of Clinical Medicine*
WALTER B. JAMES, M.D.....*Clinical Lecturer*
FRANK W. JACKSON, M.D.....*Chief of Clinic and Instructor in Physical Diagnosis*
GEORGE ROE LOCKWOOD, M.D.....*Clinical Assistant and Instructor in Physical Diagnosis*
WILLIAM K. DRAPER, M.D.....*Clinical Assistant and Instructor*
VAN HORNE NORRIE, M.D.....*Clinical Assistant and Instructor in Physical Diagnosis*
ANGIER B. HOBBS, M.D.....*Clinical Assistant*
ARTHUR M. SHRADY, M.D.....*Clinical Assistant*
ALFRED E. SUMNER, M.D.....*Clinical Assistant*
ARTHUR R. BRAUNLICH, M.D.....*Clinical Assistant*

Courses

I—THE PRACTICE OF MEDICINE—Didactic lectures. 2 hours for five months, and 3 hours for three months. Professor DELAFIELD

Required, in the third and fourth years, of candidates for the degree of M.D.

II—CLINICAL LECTURES ON GENERAL MEDICINE AT THE VANDERBILT CLINIC—1 hour. Th. at 3 P.M. Professor DELAFIELD

Required, in the third and fourth years, of candidates for the degree of M.D.

III—PHYSICAL DIAGNOSIS—Practical instruction; thirty lessons for each student. Drs. LOCKWOOD, DRAPER, and NORRIE

Required, in the third year, of candidates for the degree of M.D.

IV—HOSPITAL CLINICS IN GENERAL MEDICINE—Roosevelt Hospital. M. at 4 P.M., throughout the academic year. Professors DELAFIELD, DRAPER, and PEABODY

New York Hospital. Saturdays at 9.30 A.M. and Mondays at 3 P.M. Professors DRAPER and PEABODY. (See "Materia Medica and Therapeutics.")

Presbyterian Hospital on Tuesdays at 3 P.M.

Attendance at hospital clinics is optional, in the third and fourth years, for candidates for the degree of M.D.

Provençal

(See page 137)

Psychology

(See page 124)

Public Law and Jurisprudence

(See page 93)

Rhetoric and English Composition

(See page 78)

Romance Languages and Literatures

*Adolphe Cohn, LL.B., A.M. ..... *Professor*
Henry Alfred Todd, Ph.D. ..... *Professor of Romance Philology*
Carlo Leonardo Speranza, LL.B., A.M. ..... *Adjunct Professor*
Benjamin Duryea Woodward, Ph.D. ..... *Instructor*
Louis Marie Auguste Loiseaux, S.B. ..... *Tutor*
Curtis Hidden Page, Ph.D. ..... *Tutor*
Gaston Douay ..... *Lecturer*

The department of the Romance Languages and Literatures has charge of all the courses of instruction and research, both in Columbia College and in the School of Philosophy, dealing with the various languages that trace their origin to the speech of ancient Rome. To the chief of these languages, the French, Italian, and Spanish, a foremost place is naturally assigned in the work of the department, but appropriate attention is also given, in the more advanced and special courses, to the remaining members of the family, several of which, such as Old and Modern Provençal, Catalan, Portuguese, and Rumanian, are possessed of great literary and philological interest.

The department offers: (1st) to students in Columbia College, practical instruction in French, Italian, and Spanish, courses in French, Italian, and Spanish literature, and introductory instruction in Romance philology; (2d) to students in the School of Philosophy, advanced instruction in literature and in Romance philology, courses in the languages unprovided for in Columbia College, and also instruction of a pedagogical character. One of the aims of the department is to offer at least one course in each of the languages of the Romance group. Although no course in philology proper is offered to members of the lower classes in the College, it may be stated that, from the outset, care is taken to suggest the significance of the historical development of the languages taught, so as to furnish a solid foundation for grammatical knowledge, and to awaken in some proportion of the students a taste for philological research.

The courses at present offered are grouped under the following headings: French, Provençal, Italian, Spanish, Portuguese, Rumanian.

Courses VII and VIII, under French, are given by Professor Brander Matthews of the Department of Literature.

Courses in French

Elementary Course for University Students—Books: Chardenal, *Complete French Course;* Macmillan, *French Course, Second Year;* Super, *French Reader;* Labiche et Martin, *Le Voyage de M. Perrichon;* Halévy, *L'Abbé Constantin;* Sandeau, *Mlle. de la Seiglière;* About, *La Mère de la marquise;* also, if time serve, Sand, *La Mare au diable.* 3 hours, first term. Dr. Page.

Intended primarily for *advanced students* from any department of the University who have omitted to take French in the earlier part of their course. It is therefore expected that work can be pushed forward fast enough to enable them to join Course A at the beginning of the second term. No examination will be conducted in this course. Students preparing for the entrance examination in French will not be admitted.

* Absent on leave.

COURSE A—GRAMMAR, READING, COMPOSITION—Books: Edgren, *French Grammar;* Grandgent, *French Composition;* Mérimée, *Colomba;* Chateaubriand, *Extraits;* Daudet, *La Belle Nivernaise;* Théophile Gautier, *Voyage en Espagne;* Labiche et Martin, *Le Voyage de M. Perrichon;* Sandeau, *Mlle. de la Seiglière;* Belot et Villetard, *Le Testament de César Girodot;* Molière, *L'Avare, Le Bourgeois gentilhomme.*

Outside reading: George Sand, *Nanon.* 3 hours. Mr. LOISEAUX and Mr. DOUAY

Prescribed for freshmen who do not take German A or its equivalent.

B—GENERAL INTRODUCTION TO THE STUDY OF FRENCH LITERATURE—Books: Corneille, *Le Menteur, Rodogune;* Racine, *Les Plaideurs, Britannicus;* Molière, *Tartufe;* La Fontaine, *Fables choisies;* Bossuet, *Oraisons funèbres;* Montesquieu, *Extraits;* Marivaux, *Les Fausses Confidences;* Voltaire, *Zaïre, Prose* (extracts, edited by Cohn and Woodward); Rousseau, *Extraits;* Beaumarchais, *Le Barbier de Séville;* Bowen, *Modern French Lyrics;* Victor Hugo, *Hernani;* Alfred de Musset, *Selections* (éd. Kuhns); Fontaine, *Les Historiens français du XIXe siècle:* Sainte-Beuve, *Extraits des Causeries du lundi;* Gazier, *Petite Histoire de la littérature française.*

The requirements in outside reading are, during the first term: Voltaire, *Le Siècle de Louis XIV.;* and during the second term one of the following novels, to be selected by the student: Mme. de Staël, *Corinne;* Victor Hugo, *Quatrevingt-treize;* A. de Vigny, *Cinq-Mars.* 3 hours. Dr. WOODWARD and Mr. DOUAY

Prescribed for sophomores who have taken French A in the freshman year, unless Chemistry I is substituted in its place.

I—FRENCH RHETORIC—Books: Larive et Fleury, *Troisième Année de grammaire;* Legouvé, *La Lecture en action;* La Fontaine, *Fables;* Thieulin et Le Goffic, *Nouveau Traité de versification française;* Reinach, *L'Éloquence française depuis la Révolution jusqu'à nos jours;* Leune, *Difficult Modern French;* Théodore de Banville, *Gringoire;* Daudet, *Contes;* Van Daell, *Extraits choisis des Œuvres de Paul Bourget.* In addition to the above the class will read a contemporary play, the title of which will be announced in the course of the year.

Outside reading: Renan, *Pages choisies;* Fontaine, *Les Historiens français du dix-neuvième siècle.* Other books for outside reading may be suggested, but not prescribed, during the year. 3 hours. Dr. PAGE and Mr. DOUAY

Open to students who have taken course B or its equivalent.

II—HISTORY OF FRENCH LITERATURE IN THE SEVENTEENTH CENTURY—Books: Descartes, *Discours de la méthode;* Pascal, *Les Provinciales* (letters 1, 4, 13, édition Brunetière, Paris, Hachette); Corneille, *Théâtre choisi;* Molière, *Œuvres complètes;* Racine, *Œuvres complètes;* Boileau, *L'Art poétique;* Bossuet, *Oraisons funèbres;* La Rochefoucauld, *Maximes;* La Bruyère, *Les Caractères;* Sévigné, *Choix de Lettres* (édition Doumic, Paris, Armand Colin): Crane, *La Société française au dix-septième siècle;* Lanson, *Histoire de la littérature française.*

Rambaud's *Histoire de la civilisation française* is recommended as collateral reading. 3 hours. Dr. PAGE and Mr. LOISEAUX

III—History of French Literature in the Eighteenth Century: Voltaire—3 hours. Professor Cohn

Not given in 1896–7. Will be given in 1897–8.

IV—History of French Literature in the Eighteenth Century: Montesquieu, Rousseau, the Encyclopedists—Books: Lanson, *Histoire de la littérature française;* Montesquieu, *Lettres persanes*, *Esprit des lois* (first five books and extracts, edited by Paul Janet, Paris, Delagrave); Rousseau, *Discours sur les sciences et les arts*, *Lettre sur les spectacles*, *Contrat social* (all these may be had in one volume, published by Garnier frères, Paris), *Emile* (Livre IV, including the *Profession de foi du vicaire savoyard*); *Lectures choisies de J. J. Rousseau* (édition Rocheblave); Diderot, *Extraits* (édition Fallex); D'Alembert, *Discours préliminaire de l'Encyclopédie;* Beaumarchais, *Mémoires*, *Le Mariage de Figaro;* Mirabeau, *Discours choisis.*

Rambaud's *Histoire de la civilisation française* is recommended as collateral reading. 3 hours. Dr. Woodward

V—History of French Poetry in the First Half of the Nineteenth Century, especially Victor Hugo and the Romantic Movement—Books: Chateaubriand, *Atala*, *René;* Mme. de Staël (extracts, to be indicated in the class); Lamartine, *Méditations poétiques*, extracts from the *Nouvelles Méditations*, the *Harmonies poétiques et religieuses*, the *Recueillements poétiques*, and *Jocelyn;* Victor Hugo, *Preface to Cromwell*, *Hernani*, *Marion Delorme*, *Le Roi s'amuse*, *Ruy Blas*, *Les Burgraves*, many selections from the *Odes et Ballades*, *Les Orientales*, *Les Feuilles d'automne*, and *Les Châtiments*, and some from *Les Chants du crépuscule*, *Les Voix intérieures*, *Les Contemplations*, and *La Légende des Siècles;* Alfred de Musset, *Poésies;* George Pellissier, *Le Mouvement littéraire au XIXe siècle;* Brunetière, *L'Évolution de la poésie lyrique en France au XIXe siècle;* Lanson, *Histoire de la littérature française.* 1 hour. Dr. Page

VI—History of Literary Criticism in France, especially Sainte-Beuve and Brunetière—Books: Brunetière, *L'Evolution des genres dans l'histoire de la littérature* (vol. i.); Paul Bourget, *Essais de psychologie contemporaine*, *première série;* Hatzfeld et Meunier, *Les Critiques littéraires du XIXe siècle.*

No book of Sainte-Beuve is especially prescribed for this course, but every student will be directed to study for the benefit of the class some selected parts of his works. 1 hour. Mr. Loiseaux

VII—The French Dramatists of the 19th Century—Books: Hugo, *Hernani*, *Ruy Blas*, *Marie Tudor;* Dumas, *Henri III et sa Cour*, *La Tour de Nesle*, *Antony;* Scribe, *Adrienne Lecouvreur*, *Une Chaîne;* Augier, *Le Gendre de M. Poirier*, *L'Aventurière;* Dumas fils, *Le Demi-Monde*, *L'Etrangère;* Sardou, *Les Pattes de Mouche*, *Patrie;* Labiche, *Le Voyage de M. Perrichon;* Meilhac et Halévy, *Froufrou*, *La Boule;* Zola, *Thérèse Raquin.* 2 hours. Professor Brander Matthews

Identical with first half of Literature IV.

IX—Writers of the 16th Century, especially Montaigne—Books: Darmesteter et Hatzfeld, *Le Seizième Siècle en France* (Paris, Delagrave); Montaigne, *Essais*. 1 hour. Mr. Loiseaux

X—Critical Bibliography of French Literature from the 16th to the 19th Century—2 hours. Professor Cohn, Dr. Woodward, Mr. Loiseaux, and Dr. Page

Not given in 1896–7. Will be given in 1897–8.

XI—Old French; reading of selected extracts—Books: Clédat, *Morceaux choisis des auteurs français du moyen âge;* Gaston Paris, *La Littérature française au moyen âge; Extraits de la Chanson de Roland*. 2 hours, first term. Dr. Woodward

XII—The French Chroniclers of the Middle Ages—Books: Petit de Julleville, *Chroniqueurs français du moyen âge;* Gaston Paris, *La Littérature française au moyen âge*. 2 hours, second term. Dr. Woodward

XIII—Methods of Teaching French—2 hours. Professor Cohn

Open both to students in Columbia College and to students in Teachers College. Not given in 1896–7. Will be given in 1897–8.

Seminar—Special Topics in Romance Literature; The Novel and the Drama in France and Italy during the Eighteenth Century. 2 hours. Professors Todd and Speranza, Dr. Woodward, Mr. Loiseaux, and Dr. Page

N.B.—For other advanced courses in French Language and Literature, see under Romance Philology.

Optional Courses

French Conversation (elementary course)—1 hour. Mr. Douay

French Conversation (advanced course)—1 hour. Mr. Douay

Courses in Provençal

I—Old Provençal—Books: Bartsch, *Chrestomathie provençale* (Elberfeld, 1880); Gröber's *Grundriss* (Strasburg, 1888). 2 hours. Professor Todd

Courses in Italian

I—Elementary Course—Grammar, Reading, Composition. Books: Grandgent, *Italian Grammar;* Grandgent, *Italian Composition Book;* Morandi, *Prose e Poesie*. 3 hours. Professor Speranza

Open to juniors; open also to freshmen and sophomores, but only after they have shown their ability to pass the final examinations in French B and German B.

II—Italian Literature in the 15th and 16th Centuries—Books: Fr. Torraca, *Manuale della Letteratura Italiana* (Torino, 1886). The school editions of *Orlando Furioso*, *Gerusalemme Liberata*, and *Del Principe*. Chapters from *Le Fonti dell' Orlando Furioso*, by Pio Rajna, *Machiavelli e i suoi tempi*, by P. Villari, and *T. Tasso e la Vita Italiana nel secolo XVI.*, by P. L. Cecchi, will be assigned to the students for private reading. 3 hours. Professor Speranza

III—Italian Literature in the 14th Century—Books: Dino Compagni's *Cronica fiorentina;* Boccaccio's *Decamerone;* Petrarca's *Rime;* Dante's *Convivio*, in part, and *Vita Nuova*, entire; selections from Fr. Torraca's *Manuale della letteratura italiana*. In connection with Petrarca, Foscolo's *I Sepolcri*, and a few of the most characteristic poems by Leopardi, Manzoni, and Carducci will be read in class. Some chapters in A. Bartoli's *I primi due secoli della letteratura italiana*, Zumbini's *Studi sul Petrarca*, etc., will be assigned for private reading. 3 hours. Professor Speranza

Not given in 1896–7. Will be given in 1897–8.

IV—Critical Study of Dante's Divina Commedia—2 hours. Professor Speranza

V—History of Italian Literature—Lectures and private reading. 1 hour. Professor Speranza

N.B.—For other advanced courses in Italian Language and Philology, see under Romance Philology.

Courses in Spanish

I—Elementary Course—Grammar, Reading, Composition. Books: Knapp, *Spanish Grammar;* Knapp, *Spanish Readings;* Valera, *El Pdjaro verde;* P. A. de Alarcon, *El Final de Norma;* Breton de los Herreros, *La Independencia*. 3 hours. Professor Todd and Mr. Loiseaux

Open to juniors; open also to freshmen and sophomores, but only after they have shown their ability to pass the final examinations in French B and German B.

II—Don Quijote and the Time of Cervantes, Composition.—Books: Cervantes, *Don Quijote; Entremeses; Novelas Ejemplares;* Juan Calderon, *Cervantes Vindicado*. 3 hours. Professor Speranza

III—The Classical Dramatists of Spain: Lope de Vega, Calderon, etc. Composition. 3 hours. Professor Speranza

Not given in 1896–7. Will be given in 1897–8.

IV—The Origins of Spanish Poetry. El Poema del Cid—1 hour. Professor Todd

Not given in 1896–7.

V—History of Spanish Literature—Lectures and private reading. 1 hour. Professor Cohn

Not given in 1896–7.

N.B.—For other advanced courses in Spanish Language and Philology, see under Romance Philology.

Courses in Portuguese and Rumanian

Two courses are offered to advanced students, one in Portuguese, by Professor Todd, the other in Rumanian, by Dr. Woodward. Each of them is a course of 2 hours throughout the year.

Courses in Romance Philology

I—Introduction to Romance Philology—2 hours. Professor Todd

Open to seniors in Columbia College and to University students.

The following courses are open only to University students:

II—Formative Elements of Romance Speech—Lectures and class work. Books: Gröber, *Grundriss;* Schwan, *Altfranzösische Grammatik.* 1 hour. Professor Todd

Not given in 1896–7.

III—Old French Dialects—Books: Bartsch and Horning, *La Langue et la Littérature françaises;* Suchier, *Reimpredigt;* Philippe de Thaon, *Cumpot* (Mall's edition). 1 hour. Professor Todd

Not given in 1896–7. Will be given in 1897–8.

Seminar—The Principles of the Classification of Manuscripts and of the Constitution of Texts. 2 hours. Professor Todd

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N.B.—Weekly lectures in French, Italian, and Spanish, open to all members of the University, are given by the members of the department and by distinguished European lecturers.

The Romance Club, which consists of all the instructors and advanced students in the department, holds fortnightly meetings in which the latest contributions to philology and literature in the field of the department are reported upon and discussed.

Equipment

The library of Columbia University contains a large number of works in French, English, German, Italian, and Spanish, bearing upon the study of the Romance languages and literatures. One of the latest additions is the library of the late Claude Pelletier, a member of the Assemblée Constituante and the Assemblée Législative of France (1848–1851), which was presented to the University by his widow.

Scandinavian

(See page 83)

Semitic Languages

(See page 114)

Sociology and Statistics

(See page 62)

Spanish

(See page 138)

Surgery

WILLIAM TILLINGHAST BULL, M.D.....*Professor*
ROBERT F. WEIR, M.D.....*Professor*
CHARLES MCBURNEY, M.D.....*Professor of Clinical Surgery*
FRANK HARTLEY, M.D.....*Clinical Lecturer and Instructor in Operative Surgery*
FRANCIS HARTMAN MARKOE, M.D.....*Clinical Lecturer*
BERN BUDD GALLAUDET, M.D.....*Clinical Lecturer*
ELLSWORTH ELIOT, M.D.....*Chief of Clinic and Instructor in Minor Surgery*
ROYAL WHITMAN, M.D.....*Chief of Clinic and Instructor in Orthopædic Surgery*
CHARLES T. PARKER, M.D.....*Assistant Instructor in Operative Surgery*
LOUIS IRVING MASON, M.D.....*Clinical Assistant*
EDWARD M. FOOTE, M.D.....*Clinical Assistant*
JOSEPH J. HIGGINS, M.D.....*Clinical Assistant*
CHARLES W. STEWART, M.D.....*Clinical Assistant*
HOWARD D. COLLINS, M.D.....*Clinical Assistant*
WALTON MARTIN, M.D.....*Clinical Assistant*
HOMER W. GIBNEY, M.D.....*Clinical Assistant*
HENRY LING TAYLOR, M.D.....*Clinical Assistant*
LEONARD W. ELY, M.D.....*Clinical Assistant*

Courses

I—SURGICAL PATHOLOGY, GENERAL AND REGIONAL SURGERY—Didactic lectures. 2 hours. Professors BULL and WEIR

Required, in the third and fourth years, of candidates for the degree of M.D.

II—CLINICS IN GENERAL SURGERY AT THE VANDERBILT CLINIC—2 hours. M. at 12. Professors BULL and WEIR

Required, in the third year, of candidates for the degree of M.D.

III—MINOR SURGERY AND BANDAGING—Practical instruction at the Vanderbilt Clinic. 12 lessons for each student. Dr. ELIOT

Required, in the third year, of candidates for the degree of M.D.

IV—OPERATIVE SURGERY UPON THE CADAVER—Practical instruction to classes of six members each. Each student performs for himself upon the cadaver the principal operations, including the ligation of arteries, amputations, resections, and the removal of parts. Special attention is paid to operations upon the abdominal viscera. 13 to 14 lessons for each student. Drs. HARTLEY and PARKER

Optional, in the fourth year, for candidates for the degree of M.D.

V—HOSPITAL CLINICS IN GENERAL AND OPERATIVE SURGERY
New York Hospital.
Sat. at 2.30 P.M. Professors BULL and WEIR
W. at 2.30 P.M. from October to February. Professor WEIR
Th. at 3 P.M. from February to June. Dr. HARTLEY

Roosevelt Hospital, Syms Operating Theatre.
Sat. at 2.30 P.M. Professor McBURNEY
One hour per week in Out-Patient Department. Dr. JOHNSON
Bellevue Hospital.
Th. at 2.30 P.M. Drs. F. H. MARKOE and GALLAUDET
St. Luke's Hospital.
F. at 2.30 P.M. from October to February. Dr. F. H. MARKOE
Presbyterian Hospital.
Tu. at 3 P.M. Professor McCOSH

Attendance at hospital clinics is obligatory, in the third and fourth years, for candidate for the degree of M.D.

Toxicology

(See page 58)

Zoölogy

HENRY FAIRFIELD OSBORN, Sc.D.....*Professor*
EDMUND B. WILSON, Ph.D.....*Professor*
BASHFORD DEAN, Ph.D.....*Adjunct Professor*
GARY N. CALKINS, B.S.....*Tutor*
OLIVER S. STRONG, Ph.D.....*Tutor*
NATHAN R. HARRINGTON, A.M.....*Assistant*

General Statement

The courses in this department are all elective, leading to the degrees of A.B., A.M., and Ph.D. They consist of lectures followed by from 4 to 8 hours of practical work in the laboratory, and are arranged consecutively, advancing from instruction belonging properly to a liberal education up to extreme specialization. First: The elementary courses I and II are designed for general training in the principles of animal biology, as part of the general education of scientific and academic students. Second: The courses III and IV follow, and are of a slightly more special character, being arranged for students preparing for advanced medicine, physiology, geology, and zoölogy. Third: The earlier university courses V, VI, and VII are arranged as minor courses for students of palæontology, botany, and physiology, and as first-year courses for students of advanced biology. Fourth: The more special university courses IV, VIII, IX, X, and XI are designed for the higher and research training of advanced university students.

In addition to the regular instruction of the department the fourth series of "Columbia University Biological Lectures" will begin in January, 1897. The lecturers and subjects will be announced later. These lectures are delivered in the University Buildings at 49th Street. All other courses are given at the Medical School.

Courses in Animal Biology

I—Elementary Zoölogy—Introductory to biology, palæontology, geology. Descriptive of the various orders of animals. Lectures and demonstrations. Packard's Elements of Zoölogy. 2 hours, second term. Dr. Dean

Open to first-year students, Schools of Mines, Chemistry, Engineering and Architecture.

II—Elementary Biology—Introductory to morphology, physiology, and general biology. A general course upon lower and higher organisms. Lectures and laboratory work. Sedgwick and Wilson's General Biology. Marshall and Hurst's Practical Zoölogy. 2 afternoons (4–6 hours). Professors Wilson and Osborn

Elective for juniors, Columbia College.

III—General Zoölogy—More advanced treatment of subjects under course II. Preparatory to biology and medicine. Lectures and laboratory work. Wiedersheim's Comparative Anatomy; Thomson's Zoölogy; Foster and Balfour's Elements of Embryology; McMurrich's Invertebrate Morphology. 2 afternoons (4–6 hours). Professors Osborn and Wilson

Elective for seniors, Columbia College.

IV—Comparative Neurology—An introduction to the comparative structure of the brain and nervous system of the lower and higher animals. Lectures and laboratory work. Edinger's Lectures upon the Nervous System. Also Obersteiner, Romanes, Retzius. 1 morning, or day (3–6 hours). Dr. Strong

Open to seniors and university students.

V—Comparative Zoölogy—Anatomy and organogeny of vertebrates and invertebrates with reference to systematic zoölogy. Lectures and laboratory work. Wiedersheim's Grundriss der Vergleichenden Anatomie; Claus's Zoölogy; McMurrich's Invertebrate Morphology; Lang's Comparative Anatomy. 12 hours, 2 days. Professors Osborn and Wilson

Required of candidates for Ph.D. whose major or minor subject is Biology, first year.

VI—Comparative Embryology—A general comparative treatment of the earlier stages of development, with especial reference to vertebrates. 6 hours (1 day) through the first term (parallel with course V). Foster and Balfour's Elements; Marshall's Embryology. Professor Wilson

Required of all candidates for Ph.D. whose major subject is Biology.

VII—Cellular Biology—General structure and functions of the cell. 6 hours (1 day) through the second term (parallel with course XII). Hertwig, Zelle, und Gewebe. Professor Wilson

VIII—Morphology of the Mammals—A study of the structure and development of fossils and recent mammals. Lecture and laboratory courses partly at the American Museum of Natural History. Flower's Osteology; Flower and Lydekker, Mammals; Zittel's Palæontologie. 6 hours (1 day). Professor Osborn

Open to university students.

IX—Morphology of the Fishes—The comparative anatomy and embryology of the fishes, recent and fossil. Optional museum course in first term. Lecture and laboratory course in second term. Dean's Fishes Living and Fossil; Smith Woodward's Catalogue of Fossil Fishes. 6 hours (1 day). Dr. Dean

Open to students in the Schools of Mines, Chemistry, Engineering and Architecture, juniors and seniors in certain courses, and university students.

X—Special Morphology—The Protozoa. A general treatment of the classification, morphology, and physiology of this type of organisms, and of their relations to modern theories of biology. 1 hour, second term. Bütschli, Protozoa in Bronn's Thierreich. Mr. Calkins

Not given in 1896–7.
Open to university students.

XI—Advanced Biology—The study of special groups of animals or of special biological problems, as an introduction to original investigation. 12 hours (2 days).

Open to university students, second or third year.

XII—Special and Experimental Embryology—Critical treatment of the problems of cleavage, germ-layers, differentiation, and the general interpretation of development. 6 hours (1 day) through the second term (parallel with course VII). Mark-Hertwig; Heider and Korschelt. Professor Wilson

Open to university students.

The announcement of additional courses for 1897–8 will be made later in the Pure Science circular.

Equipment

Pending the construction of the permanent zoölogical laboratory in Schermerhorn Hall, a thoroughly equipped laboratory has been arranged on the third floor of the northern wing of the College of Physicians and Surgeons (West 59th Street), including general and advanced laboratories, museum, aquaria, lecture-room, library, and reading-room. The equipment includes the best Zeiss microscopes, the higher apochromatic objectives, optical instruments, Leitz dissecting stands, and other apparatus for advanced morphological work. The teaching collections include a large series of the Naples marine types, the injected Vertebrate Series of Fric and Muller, a full set of standard and specially prepared charts, and a variety of living animals and plants contained in fresh-water and marine aquaria.

The departmental library, a part of the university library kept in the laboratory, the gift of Charles H. Senff, is a memorial to the late Dr. Northrop, and embraces full sets of the standard biological works, including the journals and a rapidly increasing collection of memoirs and special monographs. A fund is available for the purchase of literature needed in connection with the special researches of students. Forty-three of the current biological journals are subscribed for. One of the special features of the department is the Morphological Club, open to instructors and all advanced students of biology, and meeting every week in the library to report upon special investigations and to present abstracts of special articles. The more important papers published from the laboratory are collected and reissued in *Biological Contributions from Columbia College: Zoölogy*. Another feature in advanced instruction is connected with the biological section of the New York Academy of Sciences, which affords opportunities for the public reading, discussion, and printing of scientific papers.

The summer study of marine zoölogy is provided for in the connection of the department with the Marine Biological Laboratory at Wood's Holl, Mass., including subscription for an investigator's room; also in special expeditions to various localities along the coast. The Western palæontological collections in the American Museum of Natural History are open to certain advanced students of vertebrate morphology.

UNIVERSITY DEGREES

Regulations for the Degrees of Master of Arts and Doctor of Philosophy

1. Candidates for the degrees of master of arts and doctor of philosophy must hold a baccalaureate degree in arts, letters, philosophy, or science, or an engineering degree, or an equivalent of one of these from a foreign institution of learning.

The deans of the several schools will require candidates for the higher degrees to present satisfactory evidence that they are qualified for the studies they desire to undertake.

2. Candidates for the degrees of master of arts and doctor of philosophy must pursue their studies in residence for a minimum period of one and two years, respectively.[1] The year spent in study for the degree of master of arts is credited on account of the requirement for the degree of doctor of philosophy. Residence at other universities may be credited to a candidate. In certain cases and by special arrangement, time exclusively devoted to investigation in the field will be credited in partial fulfilment of the time required. No degree will be conferred upon any student who has not been in residence at Columbia University for at least one year.

3. Each student who declares himself a candidate for the degrees of master of arts and doctor of philosophy, or either of them, shall, immediately after registration, designate one principal or major subject and two subordinate or minor subjects, which shall be the studies of his university course.

4. The subjects from which the candidate's selection must be made are :

UNDER THE FACULTY OF PHILOSOPHY :

I. *Major Subjects :* 1. Philosophy ; 2. psychology ; 3. education ; 4. linguistics ; 5. literature ; 6. classical archæology and epigraphy. 7. Greek language, literature, and, incidentally, Grecian history ; 8. Latin language and literature, and, incidentally, Roman history ; and the following, *including in each case the study of both the language and the literature ;* 9. English ; 10. Germanic ; 11. Romance ; 12. Sanskrit (with Pālī) and Iranian ; 13. Semitic ; 14. Anthropology. Nos. 5, 10, 11, 12, and 13 count each as the equivalent of a major and one minor subject.

II. *Minor Subjects :* 1. Philosophy ; 2. psychology ; 3. logic ; 4. education ; 5. anthropology ; 6. linguistics ; 7. literature ; 8. Greek ; 9. Greek

[1] In practice three years of study is usually necessary to obtain the degree of doctor of philosophy.

archæology ; 10. Latin ; 11. Roman archæology ; 12. Sanskrit ; 13. Iranian ; 14. English ; 15. Anglo-Saxon ; 16. Gothic ; 17. Germanic philology ; 18. German language and literature ; 19. Scandinavian language and literature ; 20. Romance philology ; 21. French language and literature ; 22. Spanish language and literature ; 23. Italian language and literature ; 24. Hebrew ; 25. Arabic ; 26. Assyrian ; 27. Syriac ; 28. Ethiopic ; 29. Semitic epigraphy ; 30. Turkish ; 31. Armenian.

In his choice of subjects under this faculty, the candidate is limited by the regulation that not more than two of the three subjects may be selected from those offered by any one department. A major subject will involve attendance at lectures and seminars amounting to four or more hours weekly ; a minor subject will involve attendance of two or more hours weekly.

UNDER THE FACULTY OF POLITICAL SCIENCE :

Group I.—History and political philosophy : 1. European history ; 2. American history ; 3. political philosophy.

Group II.—Public law and comparative jurisprudence : 1. Constitutional law; 2. international law ; 3. criminal law ; 4. administrative law ; 5. comparative jurisprudence.

Group III.—Economics and social science ; 1. Political economy and finance ; 2. sociology and statistics.

In his choice of subjects under this faculty, the candidate is limited by the regulation that not more than two of the three subjects may be selected from any one of the above groups, and by the following rules :

Candidates offering European history as the major subject, must offer American history as one of the minor subjects, and *vice versa*.

Candidates offering political economy and finance as the major subject, must offer sociology and statistics as one of the minor subjects, and *vice versa*.

Candidates will not be permitted to offer constitutional law alone as the major subject for the degree of doctor of philosophy, but must combine with it the course on general international law or on comparative administrative law.

Candidates offering international law, or criminal law, or administrative law as the major subject, must take constitutional law as one minor subject.

Candidates will not be permitted to offer criminal law alone as the major subject for the degree of doctor of philosophy, but must combine with it the course on general international law.

To be recognized as a major subject for the degree of master of arts the courses selected must aggregate at least two hours per week throughout the year, and must also include attendance at a seminar ; for a minor subject for the degree of master of arts, the attendance at a seminar is not required.

To be recognized as a minor subject for the degree of doctor of philosophy, courses must be taken, in addition to the requirements for a minor subject for the degree of master of arts, aggregating two hours weekly. To be recognized as a major subject for the degree of doctor of philosophy, all of the courses and seminars offered in that subject must be taken.

UNDER THE FACULTY OF PURE SCIENCE :

Mathematics ; mechanics ; astronomy ; geodesy ; physics ; chemistry ; mineralogy ; geology ; palæontology ; lithology ; biology ; botany ; physiology ; anatomy ; bacteriology.

In his choice of subjects under this faculty, the candidate is limited by the regulation that no two of the subjects selected may be in any one department, unless the consent of the faculty thereto shall have first been obtained. Candidates are expected to devote at least one half their time throughout their course of study to the major subject. In the case of laboratory courses this implies two days a week, or its equivalent, as determined by each department. Each minor subject is intended to occupy approximately one fourth of the time during one year for the degree of master of arts, and during one or two years, according to the nature of the subject and the previous training of the candidate, for the degree of doctor of philosophy. Students may distribute the remainder of their time either in courses of major or minor reading in branches where their preparation is least complete, or in researches connected with their major subject.

Under the Faculty of Applied Science:

Mining, metallurgy, engineering (civil, mechanical, electrical, and sanitary), and architecture.

The Faculty of Applied Science requires that at least one minor subject should be taken under the Faculty of Pure Science.

A minor subject may be taken in the same department as the major, but no two minors may be taken in the same department. It is expected that fully half of the student's time throughout the course of study shall be devoted to the major subject, and one quarter of the time during one year and an equal proportion of the second year, if necessary, to each of the minor subjects.

5. Each student is given a registration book, which is signed by the professor or instructor in charge of each course of instruction or investigation at the beginning and end of every such course. This registration book is to be preserved by the student as evidence of work accomplished and should be submitted to the deans of the several faculties at the end of each year, that proper credit may be given and entered on the permanent records of the institution.

6. Students desiring to be examined as candidates for any degree must make written application for such examination to the dean of the proper faculty, on blank forms provided for the purpose. All such applications must be made on or before April 1st of the academic year in which examination is desired, and must be accompanied by the candidate's registration book.

7. Each candidate for the degree of master of arts shall present an essay on some topic previously approved by the professor in charge of his major subject. Before the candidate is admitted to examination the professor in charge of his major subject must have signified his approval of such essay. This essay must be presented not later than May 1st of the academic year in which the examination is to take place. The Faculty of Political Science requires this essay to be a paper read during the year before the seminar of which the candidate is a member.

8. Each candidate for the degree of doctor of philosophy shall present a dissertation embodying the result of original investigation and research, on some topic previously approved by the faculty. When such dissertation has been approved by the faculty, it shall be printed by the candidate, and one hundred and fifty copies shall be delivered to the faculty, unless for reasons of

weight a smaller number be accepted by special action of the University Council. On the title-page of every such dissertation shall be printed the words: "Submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy, in the Faculty of————————, Columbia University." There shall be appended to each dissertation a statement of the educational institution that the author has attended, a list of the degrees and honors conferred upon him, as well as the titles of any previous publications.

All dissertations for the degree of doctor of philosophy must be submitted for approval not later than April 1st of the academic year in which examination is desired.

The several faculties have delegated the power to approve the subject chosen for his dissertation by any candidate for the degree of doctor of philosophy, as well as the power to approve the dissertation itself, to the professor in charge of the candidate's major subject.

The Faculty of Philosophy requires the submission and approval of the dissertation before the candidate is admitted to examination.

In the Faculty of Political Science, with the consent of the dean and the professor in charge of the candidate's major subject, the examination may be held before the printed dissertation is submitted.

The Faculty of Pure Science requires the dissertation to be printed in the size and form either of the Annals or Memoirs of the New York Academy of Sciences, according to the nature of the subject, and must be delivered to the faculty before the final examination.

The Faculty of Applied Science requires the dissertation to be printed in the size and style of the School of Mines Quarterly, and delivered to the faculty not later than May 1st of the academic year in which the examination is to take place.

9. Every candidate for the degree of doctor of philosophy, in addition to passing such other examinations as may be required by the faculty, shall be subjected to an oral examination on his major subject, and shall defend his dissertation, in the presence of the entire faculty or of so many of its members as may desire to attend. The ability to read at sight Latin, French, and German is required by the faculties of Philosophy and Political Science; the ability to read at sight French and German is required by the faculties of Pure Science and of Applied Science, to be certified in each case by the dean of the faculty concerned.

10. Students holding college degrees, who shall have completed with marked distinction one of the regular courses in the School of Law, the School of Medicine, the School of Mines, the School of Chemistry, the School of Engineering, or the School of Architecture, may be recommended for the degree of master of arts; provided that in each case the candidate presents a satisfactory dissertation, and that at least a part of the extra work required of him for the degree of master of arts be taken under the direction of either the Faculty of Philosophy, the Faculty of Political Science, or the Faculty of Pure Science, to the extent of a minor course for not less than one year.

11. No student shall continue to be a candidate for the degree of doctor of philosophy for a longer period than three years from the time he ceases to be in residence.

Regulations for the Degree of Master of Laws

1. Any student who has satisfactorily completed the regular course of study in Columbia College, to the close of the junior year, or in some other college maintaining an equivalent curriculum (every such case of equivalency to be considered on its own merit), shall be entitled to be recommended for the degree of master of laws upon certificates from the Faculty of Law and the Faculty of Political Science that he has satisfactorily completed a four years' course of study under said faculties.

2. Every candidate for the degree of master of laws must elect from the subjects offered by said faculties, courses aggregating, in the four years, fifty-two hours per week, and must pass satisfactory examinations upon the subjects elected; provided that not more than thirty-four hours of work may be elected either in the field of Private Law, or in that of Public Law, Social Ethics, History, and Economics.

3. Students, otherwise qualified, who have received the degree of bachelor of laws from this university, after pursuing the full course of study, shall be entitled, upon pursuing for an additional year a course of study of at least thirteen hours per week, under either or both of said faculties, and passing satisfactory examinations therein, to receive the degree of master of laws; provided that no student shall receive the degree who has not studied and passed satisfactory examinations in Comparative Constitutional Law, Administrative Law, Roman Law, International Law, and in the three courses offered on Equity,[1] and who has not pursued here, or elsewhere, courses of instruction satisfactory to the Faculty of Political Science in History, Social Ethics, and Economics.

4. Each faculty shall determine the order in which the subjects offered by it shall be taken, and the maximum amount of work to be done therein during any one year.

5. Students from other universities, colleges, or law schools who shall have satisfactorily completed a course of study equivalent to at least one term of thirteen hours per week in the subjects indicated in Section 2, after receiving a bachelor's degree, may be excused from the corresponding number of terms of the four years' residence required at Columbia, provided that in no case shall any one receive the degree of master of laws who has not spent at least four years in the study of the said subjects in some university, college, or law school; and the decision whether work at another institution shall be accepted as equivalent to work at Columbia, shall rest, as far as the studies under the Faculty of Law are concerned, with the Faculty of Law, and as far as the studies under the Faculty of Political Science are concerned, with the Faculty of Political Science. But neither faculty shall admit a student from another university, college, or law school, to examination for the degree of master of laws without a residence of at least one term in this University.

[1] Under this provision students would be allowed, but not required, to take History of European Law, Conflict of Private Law, Law of Municipal Corporations, and the Law of Taxation.

COLUMBIA COLLEGE

The following departments are represented in the Faculty:

ASTRONOMY
BIOLOGY
BOTANY
CHEMISTRY
ENGLISH
  ENGLISH LANGUAGE AND LITERATURE
  LITERATURE
  RHETORIC AND ENGLISH COMPOSITION
GEOLOGY
GERMANIC LANGUAGES AND LITERATURES
GREEK
HEBREW
HISTORY
LATIN
MATHEMATICS
MECHANICS
PHILOSOPHY, ETHICS AND PSYCHOLOGY
PHYSICS
POLITICAL ECONOMY
ROMANCE LANGUAGES AND LITERATURES

Officers of the Faculty

Ex-Officio Members of the University Council

J. H. Van Amringe, Ph. D., L.H.D., LL.D..... .....*Dean*
H. T. Peck, Ph.D., L.H.D.....*Secretary*

Standing Committees for 1896-97

Committee on Curriculum and Scheme of Attendance

Professor Van Amringe, *Chairman*
" Mayo-Smith
" Butler
" Woodberry
" Perry

Committee on Free and Reduced Tuition

Professor Van Amringe, *Chairman*
" Price
" Rees

Committee on Entrance Examinations

Professor Peck, *Chairman*
" W. H. Carpenter
" Cohn
" G. R. Carpenter
" Fiske
" Wheeler

Committee on Honors

Professor Peck, *Chairman*
" Hallock
" Woodward

The Faculty

SETH LOW, LL.D., *President*

J. HOWARD VAN AMRINGE, Ph.D., L.H.D., LL.D., *Professor of Mathematics*
OGDEN N. ROOD, A.M., *Professor of Physics*
CHARLES F. CHANDLER, Ph.D., M.D., LL.D., *Professor of Chemistry*
JOHN W. BURGESS, Ph.D., LL.D., *Professor of Political Science, and Constitutional Law*
RICHMOND MAYO-SMITH, Ph.D., *Professor of Political Economy and Social Science*
THOMAS R. PRICE, LL.D., *Professor of the English Language and Literature*
JOHN KROM REES, E.M., Ph.D., *Professor of Astronomy*
H. T. PECK, Ph.D., L.H.D., *Professor of the Latin Language and Literature*
NICHOLAS MURRAY BUTLER, Ph.D., *Professor of Philosophy and Education*
EDWIN R. A. SELIGMAN, LL.B., Ph.D., *Professor of Political Economy and Finance*
WILLIAM H. CARPENTER, Ph.D., *Professor of Germanic Philology*
*ADOLPHE COHN, LL.B., A.M., *Professor of the Romance Languages and Literatures*
GEORGE EDWARD WOODBERRY, A.B., *Professor of Literature*
EDWARD DELAVAN PERRY, Ph.D., *Jay Professor of the Greek Language and Literature*
A. V. WILLIAMS JACKSON, L.H.D., Ph.D., *Professor of the Indo-Iranian Languages*
RICHARD J. H. GOTTHEIL, Ph.D., *Professor of Rabbinical Literature and the Semitic Languages*
WILLIAM A. DUNNING, Ph.D., *Professor of History*
HENRY F. OSBORN, D. Sc., *Da Costa Professor of Biology*
JAMES F. KEMP, E.M., *Professor of Geology*
EDMUND B. WILSON, Ph.D., *Professor of Invertebrate Zoölogy*
WILLIAM HALLOCK, Ph.D., *Adjunct Professor of Physics*
ROBERT S. WOODWARD, C.E., Ph.D., *Professor of Mechanics*
GEORGE R. CARPENTER, A.B., *Professor of Rhetoric and English Composition*
HENRY A. TODD, Ph.D., *Professor of Romance Philology*
THOMAS SCOTT FISKE, Ph.D., *Adjunct Professor of Mathematics*
JAMES RIGNALL WHEELER, Ph.D., *Professor of Greek*
JAMES C. EGBERT, Jr., Ph.D., *Adjunct Professor of Latin*
JAMES H. HYSLOP, Ph.D., *Professor of Logic and Ethics*
CARLO L. SPERANZA, A.M., *B.ès L., Adjunct Professor of the Romance Languages and Literatures*
CALVIN THOMAS, A.M., *Professor of the Germanic Languages and Literatures*
LUCIEN M. UNDERWOOD, *Professor of Botany*

*Absent on leave

Emeritus Officers

HENRY DRISLER, LL.D., *Emeritus Professor of the Greek Language and Literature*

JOHN D. QUACKENBOS, A.M., M.D., *Emeritus Professor of Rhetoric*

For details as to other officers of instruction see departmental statements.

RULES AND REGULATIONS FOR THE GOVERNMENT OF STUDENTS

From the Revised Statutes

1 (*a*) There shall be four classes of students, to be designated respectively as the freshmen class, the sophomore class, the junior class, and the senior class. The course of study of each of these classes shall occupy a year, and the entire course four years. C. viii, section 4.

(*b*) Every student who shall have completed the entire course of four years, and shall have passed satisfactorily all the examinations required of him, shall be qualified to receive the degree of Bachelor of Arts. C. viii, section 5.

(*c*) No student shall be admitted to the freshman class, at its formation, unless he shall have attained the age of fifteen years, nor to a more advanced standing without a corresponding increase of age; but this rule may be dispensed with when, in the opinion of the Dean, there are sufficient reasons to justify its relaxation. C. viii, section 2.

(*d*) Every candidate for admission shall be required to present, before examination, a certificate of good moral character from his last teacher, or from some citizen in good standing; and students from other colleges shall be required to bring certificates from such colleges of honorable discharge. C. viii, section 3.

Entrance Examination

2 The entrance examination is designed to test the ability of the candidate to undertake the course of study, and not merely to ascertain the character and the amount of his acquired knowledge.

3 Each applicant for admission to the freshman class must file with the Dean, at least one week before the day fixed for the entrance examinations, a certificate from his principal instructor containing a definite statement of the subjects which he is qualified to offer for examination and the certificate as to his moral character which is required by the College statutes (1 *d*). No student will be examined in June, 1897, whose name is not enrolled and whose certificate is not filed on or before June 2, 1897; nor will any student be examined in September, 1897, whose name is not enrolled and whose certificate is not filed on or before September 20, 1897. Blank forms of the certificate required can be had on application to the registrar. In the case of students expecting to be examined at a distance from the College, the names must be enrolled and the certificates filed one week earlier.

4 Entrance examinations will be held at the College on commencement day and the three days immediately following in June, and on the last Monday in September and the three days immediately following. In 1897 the examinations will begin on June 9, and September 27. There will be two examinations daily: one session from 9.30 A.M.–12 M.; the other from 1.30 P.M.–4 P.M.

5 Applicants for admission to the freshman class are required to pass a satisfactory examination in the following seventeen subjects:

English:

No applicant will be accepted in English whose work is notably defective in point of spelling, grammar, idiom, punctuation, or division into paragraphs.

1 Reading and Composition—The candidate will be required to present evidence of a general knowledge of the subject matter of the prescribed books, and to answer simple questions on the lives of their authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number (perhaps ten or fifteen) set before him in the examination paper. The treatment of these topics is designed to show the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In the place of a part or the whole of this test, the candidate may present an exercise-book, properly certified by his instructor, containing compositions or other written work done in connection with the reading of the books.

The candidate is expected to read intelligently all the books prescribed. He should read them as he reads other books; he is not expected to know them minutely, but to have freshly in mind their most important parts.

The books set for this part of the examination will be:

1897: Shakspere's As You Like It; Defoe's History of the Plague in London; Irving's Tales of a Traveller; Hawthorne's Twice-Told Tales; Longfellow's Evangeline; George Eliot's Silas Marner.

1898: Milton's Paradise Lost, Books I and II; Pope's Iliad, Books I and XXII; The Sir Roger de Coverley Papers in the Spectator; Goldsmith's The Vicar of Wakefield; Coleridge's Ancient Mariner; Southey's Life of Nelson; Carlyle's Essay on Burns; Lowell's Vision of Sir Launfal; Hawthorne's The House of the Seven Gables.

2 Study and Composition—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon subject-matter, literary form, and grammatical and logical structure.

The books set for this part of the examination will be:

1897: Shakspere's The Merchant of Venice; Burke's Speech on Conciliation with America; Scott's Marmion; Macaulay's Life of Samuel Johnson.

1898: Shakspere's Macbeth; Burke's Speech on Conciliation with America; De Quincey's The Flight of a Tartar Tribe; Tennyson's The Princess.

In connection with the reading and study of the required books, parallel or subsidiary reading should be encouraged, and a considerable amount of English poetry should be committed to memory. The essentials of English grammar should not be neglected in preparatory study.

Latin:

3 Five books of Cæsar's Commentaries on the Gallic War.

4 Six orations of Cicero; reading at sight a short passage of easy Latin prose.

5 The first six books of Vergil's Æneid.

6 Prosody.

7 Grammar and prose composition. (As to the latter, Daniell's Exercises in Latin Prose Composition, both parts, indicates the field to be covered.)

Greek:

8 Xenophon's Anabasis, Books 1 and 2.

9 Xenophon's Anabasis, Books 3 and 4; reading at sight a short passage of easy Greek prose.

10 Three books of Homer's Iliad, with prosody.

11 Grammar and prose composition. (As to the latter, Jones's Exercises in Greek Prose Composition indicates the field to be covered.)

In connection with the examinations in Greek and Latin, candidates will be required to show a fair degree of knowledge of the general history of Greece and Rome.

Mathematics:

12 Arithmetic: greatest common divisor and least common multiple, common and decimal fractions, percentage not including its commercial applications, square root, and the metric and other ordinary systems of weights and measures. Special importance is attached to accuracy and facility in calculation.

13 Algebra: factors, common divisors and multiples, fractions, equations of the first degree with one or more unknown quantities, involution including the binomial theorem for positive entire exponents, evolution, the doctrine of exponents, radicals and equations involving radicals, and putting problems into equations.

14 Geometry: plane geometry, including the solution of simple original exercises and numerical problems.

French or German:

15*a* The ability to read easy French, such as Rambaud's Histoire de la Civilization Française, and

16*a* The elements of French grammar; or

15*b* The ability to read easy German, such as Hauff's or Grimm's Märchen, and

16*b* The elements of German grammar.

6 The results of an entrance examination, entire or partial, will not be allowed to stand to the credit of a candidate for a longer period than sixteen months.

7 The Committee of the Faculty on Entrance Examinations will decide, and report to the Dean, within twelve days after the conclusion of the examination, the names of candidates that have been admitted, of those admitted conditionally, and of those that have been rejected.

8 Students admitted conditionally to the freshman class at the beginning of the academic year shall be held under probation till the end of the first term.

Not later than Tuesday of the second week following the Christmas holidays, the head of each department, in which students with entrance conditions attend, shall make to the Dean a special report of progress in the case of each conditioned student. The Dean shall lay these reports before the Committee on Entrance Examinations, and that Committee, in conjunction with the Dean, shall, as soon as practicable and before the end of the term, decide as to each conditioned student, whether he shall be dropped from the roll of the college or have his period of probation extended.

No student shall be admitted to the sophomore class until he shall have satisfied all his entrance conditions.

Preliminary Examination

9 An applicant duly enrolled, who has filed the required certificate from his principal teacher, may, at the time appointed for the examination in May or June of the year preceding his admission into the freshman class, but not in September or October, be examined on certain portions of the foregoing subjects. Such an applicant may offer at the preliminary examination the following:

Latin: Subject 3 and, if desired, either 4 or 5.*

Greek: Subject 8 and, if desired, 9.*

Mathematics: Subject 12 and, if desired, 13.

Candidates who propose to enter without Greek (see "New Curriculum," p. 165) may offer in addition, at the preliminary examination, if desired, Subject 14.

10 After such preliminary examination, applicants will not be allowed to finish their examination on the requirements for admission until the entrance examination of the following year, without the written approval of the Dean to be obtained during the month of June.

Admission of Special Students

11 The College offers special courses of study to young men, of proper age and character, who wish, without reference to any degree, to make a serious study of any special subject, or group of subjects. Candidates for admission to such special courses must make application to the Dean, and show evidence

* At the preliminary examination the candidate will be tested, but not passed, in Latin and Greek grammar.

of good character and of special fitness for the study that each wishes to pursue. Each candidate will be examined :

1st. In English composition by the Professor in Rhetoric, to show that he is able to use the language correctly.

2d. In each special study by the head of that department, to show that he is competent to enter upon the course.

Except for reasons of weight, no one will be received as a special student who has, within ten months of the time of his application, been rejected as a regular student by the Committee on Entrance Examinations, or has, within that time, become deficient as a regular student.

Admission to Advanced Standing

12 Candidates for admission from other colleges, and those desiring to be admitted to advanced standing on examination, will make application to the Dean.

The following are the regulations for the admission of students from other colleges :

1 Each applicant, if he come from a college that gives a satisfactory classical and mathematical course, may be admitted, on the proper certificate of the college that he leaves, to the second term of the freshman class, or to the sophomore class, or to the first term of the junior class.

2 Each applicant for admission to the second term of the junior class, or to the senior class, if he come from a college that gives a satisfactory classical and mathematical course, shall, before admission, satisfy the professor of each department in which he wishes to study, by examination or otherwise, that he is competent to pursue the course that he wishes to undertake.

3 Each applicant may be allowed to pursue his studies in each department with the most advanced class that he is found competent to enter, it being understood that, before applying for the A.B. degree, he shall bring all his studies up to the point demanded for that degree.

No applicant will be allowed to enter the senior class as a candidate for the degree of A.B. after October 15 of any year.

Examinations

13 Two examinations of all the classes are held every year, one commencing on the last Monday in January, and the other on the Monday of the third week preceding commencement. The former is called the mid-year examination ; the latter, the final examination. Any department may omit the mid-year examination in some or all of its courses for seniors, notice of such intended omission to be sent to the Dean on or before December 1st preceding.

It is the privilege of any department to announce that in some or all of the courses the result of the mid-year examination will be tentative only, the grade given after the final examination applying to the whole year.

14 Any student who shall have been absent for more than ten per cent. of the exercises in any course during a single term, shall not be entitled to examination in that course.

15 Every student is expected and required to keep an account of his absences, and should he exceed the limit allowed in any course, he must present to the Dean, during the week preceding the stated examination, satisfactory explanation of all his absences, or be debarred from the examination.

16 (*a*) A student absent from a mid-year or final examination in any course will be accounted deficient in that course.

(*b*) A student reported, at the close of the year, in Grade E (see 18 below) in more than one course, or in Grade E in one course and in Grade D in more than two other courses, will be dropped from the roll of his class.

(*c*) A student dropped from the roll of his class will not be permitted to attend any of the exercises of the said class without the consent of the Dean, given for reasons of weight; but he may enter the next succeeding class and pursue the course or courses in which his deficiency exists, or, in case of elective courses and with the consent of the Dean, other course or courses equivalent thereto in time, and present himself for examination in such course or courses with that class. Upon failing with that class, in any repeated or substituted course, his name will be dropped from the roll of the college. No student dropped from the roll of his class or of the college under the provisions of this section, will be accepted as a special student, except as provided in rule 11.

(*d*) No student shall be promoted to the junior class who is deficient in any course of the freshman class; and no student shall be promoted to the senior class who is deficient in any course of the sophomore class.

17 Examinations to enable deficient or debarred students to make good their deficiencies, are held within the two weeks immediately preceding the opening of the College in October; and, for members of the senior class only, during the first week in May.

Proficiency and Deficiency

18 At the close of every term, and after the stated examination has been held, each officer of instruction will report to the Dean a list of all the students in his several courses, classifying them in five grades, namely, A, B, C, D, E, according as their work in the course has been excellent, good, fair, poor, or a failure. Each student's record, up to his senior year, will be transmitted to his parent or guardian by the Dean at the close of each term.

19 Students reported in grade E in any course shall be deemed deficient in that course, and required to pass another examination in it at the time fixed for the special examination for debarred and deficient students, unless, for reasons of weight, the Dean shall otherwise direct.

20 Students reported in grade D in any course shall be warned by the instructor in charge thereof that their work is so unsatisfactory that, unless improved, it may result in their being found deficient at the close of the next term.

21 Students reported in grade D in two or more courses shall be warned by the Dean that their record is not satisfactory and that, unless improved, it may be found necessary to require them to take the courses a second time or to substitute other courses.

22 A student reported in grade D in four or more courses at the close of the year, and not reported in grade A or B in any course, or a student reported in grade E in one course and in grade D in two other courses, will not be permitted to go on with his class without the consent of the Dean, given for reasons of weight, nor will he be accepted as a special student (see Rule 11); but he may enter the next succeeding class.

23 (*a*) No scholarship, prize, or other honor shall be awarded in any course or department to any student who is reported in a grade below C in any other course or department during the year in which he is a candidate for such scholarship, prize, or honor.

(*b*) Each student to whom honors may be awarded in any department shall receive, immediately after commencement, a certificate of such award, under the seal of the College and bearing the signatures of the President and the Dean.

Honors

24 Honors are awarded at the end of the second year, the end of the third year, and at the end of the course, and are known respectively as Sophomore Honors, Junior Honors, and Final Honors.

Sophomore Honors are awarded in classics, Germanic languages and literatures, Romance languages and literatures, English, rhetoric and English composition, and mathematics.

Junior Honors are awarded in classics, Germanic languages and literatures, Romance languages and literatures, English, rhetoric and English composition, literature, mathematics, physics and chemistry, and in history.

Final Honors are awarded in classics, Germanic languages and literatures, Romance languages and literatures, English, rhetoric and English composition, literature, mathematics, physics and chemistry, biology and botany, history, political economy, and in philosophy.

25 Each candidate for honors must give notice of the fact to the Dean not later than the beginning of the second term of the year in which he is to present himself for examination. Substitutes for the courses specified below for honors may be allowed by the Faculty on petition, when good cause is shown.

Sophomore Honors

26 (*a*) CLASSICS—Candidates for Sophomore Honors in classics must have taken Greek A and B and Latin A and B (see Courses of Instruction), and must not have been classed below grade C in Greek A and Latin A, nor below grade B in Greek B and Latin B. In addition they will be examined in reading Latin and Greek at sight, in Latin and Greek prose composition, and in some special subject connected with the Greek or Latin language or literature, the same to be announced on or before December 1 of each year.

(*b*) GERMANIC LANGUAGES AND LITERATURES—Candidates for Sophomore Honors in German must have taken at least two courses in German, chosen from A, B, I, II, and must not have been classed below grade B in any of them. They will also be examined in reading German at sight, in German conversation, and in some special subject connected with the German language and literature, the same to be announced on or before December 1 of each year.

(*c*) ROMANCE LANGUAGES AND LITERATURES—Candidates for Sophomore Honors in Romance languages must have taken at least two courses in French, chosen from A, B, I, and II, and must not have classed below grade B in any of them. They will also be examined in reading French at sight, in French conversation, and in some special subject connected with the French language or literature, the same to be announced on or before December 1 of each year.

They may, with the consent and approval of the Professor of the Romance Languages and Literatures, be allowed to substitute courses in Italian or Spanish for the courses in French above mentioned.

(*d*) RHETORIC AND ENGLISH COMPOSITION—Candidates for Sophomore Honors in rhetoric and English composition must have attained a grade of at least C in Rhetoric A and must attain a grade of at least B in Rhetoric B. They will be judged by a special essay on a subject to be announced on or before December 1 of each year.

(*e*) MATHEMATICS—Candidates for Sophomore Honors in mathematics must not have been classed below grade B in Mathematics A and B (see Courses of Instruction), and will also be required to pass an examination on such additional work as may be announced by the Professor of Mathematics on or before December 1 of each year.

Junior Honors

27 Candidates for Junior Honors in any subject must have gained Sophomore Honors in the same subject; or have taken the courses and received the grade necessary to qualify them to compete for Sophomore Honors therein; or have been reported in grade A in all of the courses taken during Junior year in the department in which application for honors is made.

28 (*a*) CLASSICS—Candidates for Junior Honors must have taken courses in the departments of Greek and Latin amounting to at least four hours a week in each, and must not have been classed below grade B in any of them. They will also be required to pass an examination on such additional matter as may be agreed upon by the Professors of Greek and Latin, and announced on or before December 1 of each year.

(*b*) GERMANIC LANGUAGES AND LITERATURES—Candidates for Junior Honors in German must have taken two additional courses in the Germanic languages, and must not have been classed below grade B in any of them. They will also be required to pass an examination on some special subject selected by the Department of the Germanic Languages and Literatures, and announced on or before December 1 of each year.

(*c*) ROMANCE LANGUAGES AND LITERATURES—Candidates for Junior Honors in Romance languages must have taken courses amounting to at least three hours a week of additional work in French, and must not have been classed below grade B in any of them. They will also be required to pass an examination on some special subject selected by the Department of the Romance Languages and Literatures, and announced on or before December 1 of each year.

They may, with the consent and approval of the Professor of the Romance Languages and Literatures, be allowed to substitute courses in Italian or Spanish for the courses in French above mentioned.

(*d*) English Language and Literature—Candidates for Junior Honors in the English language and literature may offer special work in connection with any one of the courses open to Juniors in the department. The subject of such special work in each course shall be defined by the Professor in charge, on or before December 1 of each year; and the honors shall be given, on special examination, to those candidates that attain grade A in the special work without falling below grade C in any of their other courses.

(*e*) Rhetoric and English Composition—Candidates for Junior Honors in rhetoric and English composition must have attained a grade of at least C in Rhetoric A and of at least B in Rhetoric B, and must attain a grade of at least B in Rhetoric C, Rhetoric I, and Rhetoric II. They will be judged by a special essay on a subject to be announced on or before December 1 of each year.

(*f*) Literature—Candidates for Junior Honors in literature may offer special work in connection with any one of the courses open to Juniors in the department or of approved courses open to them in cognate departments. The subject of such special work shall be defined by the head of the department, in conference with the candidate, on or before the 1st of December of each year, and the honors shall be given, on examination or other written work as may in each year be determined, to those candidates that attain grade A in such special work without falling below grade C in any of their other courses.

(*g*) Mathematics—Candidates for Junior Honors must have taken Mathematics I and Mechanics I, and not have been classed below grade B in either of them. They will also be required to pass a special examination on some subject agreed upon by the Professors of Mathematics and Mechanics, and announced on or before December 1 of each year.

(*h*) Physics and Chemistry—Candidates for Junior Honors must have taken Chemistry I (unless taken in Sophomore year, in which case Chemistry III must be substituted) and Physics I, and must not have been classed below grade B in either of them. They will also be required to pass a special examination in some subject agreed upon by the Professors of Physics and Chemistry, and announced on or before December 1 of each year.

(*i*) History—Candidates for Junior Honors must have taken History A, and all the courses in history offered to Juniors, and must not have been classed below grade B in any of them. They will also be required to pass a special examination in some subject announced by the Professor of History on or before December 1 of each year.

Final Honors

29 Candidates for Final Honors in any subject must have gained Junior Honors in the same subject; or have taken the courses and received the grade necessary to qualify them to compete for Junior Honors therein; or have been reported in grade A in all of the courses taken during Senior year in the department in which application for honors is made.

30 (*a*) Classics—Candidates for Final Honors must have taken additional courses in the departments of Greek and Latin, amounting to at least six hours a week, and must not have been classed below grade B in any of them. They

will also be required to submit on or before May 1 an essay containing not less than 5000 words on some subject agreed upon by the Professors of Greek and Latin, and announced on or before December 1 preceding.

(*b*) GERMANIC LANGUAGES AND LITERATURES—Candidates for Final Honors in the Germanic languages must have taken additional courses amounting to not less than four hours a week in the Germanic languages, and must not have been classed below grade B in any of them. They will be required to submit, on or before May 1, an essay containing not less than 5000 words on some subject selected by the Department of the Germanic Languages and Literatures, and announced on or before December 1 preceding. They must also show their ability to read with ease any ordinary French.

(*c*) ROMANCE LANGUAGES AND LITERATURES—Candidates for Final Honors in Romance languages must have taken additional courses in the Romance languages amounting to not less than four hours a week, and must not have been classed below grade B in any of them. They will be required to submit, on or before May 1, an essay containing not less than 5000 words on some subject selected by the Department of the Romance Languages and Literatures, and announced on or before December 1 preceding. They must also show their ability to read German with ease.

(*d*) ENGLISH LANGUAGE AND LITERATURE—Candidates for Final Honors in the English language and literature may offer special work in connection with any one of the courses open to Seniors in this department. The subject of such special work in each course shall be defined by the Professor in charge, on or before the 1st of December ; and the honors shall be given, on special examination, to those candidates that attain grade A in the special examination without falling below grade C in any of their other courses. As part of his special work, each candidate must submit, on or before the 1st of May, an essay of not less than 3000 words dealing with some aspect of the subject on which he is to be examined.

(*e*) RHETORIC AND ENGLISH COMPOSITION—Candidates for Final Honors in rhetoric and English composition must satisfy the same conditions as candidates for Junior Honors, and must offer some special piece of work in connection with one of the courses open to seniors in the department. The subject of such special work in each case shall be defined by the professor in charge on or before December 1 ; and the honors shall be given, on special examination, to those candidates who attain grade A in the special examination without falling below grade C in any of their other courses in the department. Each candidate must also submit, on or before May 1, an essay of not less than 3000 words dealing with some aspect of the subject on which he is to be examined.

(*f*) LITERATURE—Candidates for Final Honors in literature may offer special work in connection with any one of the courses open to seniors in the department, or of approved courses open to them in cognate departments. The subject of such special work shall be defined by the head of the department, in conference with the candidate, on or before December 1 of each year, and the honors shall be given, on examination or other written work as may in each case be determined, to those candidates who attain grade A in such special work without falling below grade C in any of their other courses.

(*g*) MATHEMATICS—Candidates for Final Honors must have taken at least two courses from among those offered to seniors by the department of Mathematics, and at least one from among those offered by the department of Astronomy; and must not have been classed below grade B in any of them. They will also be required to submit, on or before May 1, a satisfactory essay on some subject agreed upon by the Professors of Mathematics, Astronomy, and Mechanics, and announced on or before December 1 preceding.

(*h*) PHYSICS AND CHEMISTRY—Candidates for Final Honors must have taken at least one additional course in physics and at least one in chemistry; and must not have been classed below grade B in any of them. They will also be required to submit, on or before May 1, a satisfactory essay on some subject agreed upon by the Professors of Physics and Chemistry, and announced on or before December 1 preceding.

(*i*) BIOLOGY AND BOTANY—Candidates for Final Honors must have taken at least one course in chemistry or geology, one in botany, and three in biology; or one in chemistry or geology, one in biology, and three in botany, including laboratory work in all of the subjects; and must not have been classed below grade B in any of them. They will also be required to submit, on or before May 1, a satisfactory essay on some subject agreed upon by the Professors of Biology and Botany, and announced on or before December 1 preceding.

(*j*) HISTORY—Candidates for Final Honors must have taken at least three additional courses in history, and must not have been classed below grade B in any of them. They will also be required to submit, on or before May 1, a satisfactory essay containing not less than 5000 words on some subject announced by the Professor of History on or before December 1 preceding.

(*k*) POLITICAL ECONOMY—Candidates for Final Honors must have taken Political Economy II, and must not have been classed below grade B in either that or Political Economy A. They must also have taken all the courses in political economy and finance offered to Seniors, and must not have been classed below grade B in any of them. They will also be required to submit, on or before May 1, an essay containing not less than 5000 words on some subject agreed upon by the Professors of Political Economy, and announced on or before December 1 preceding.

(*l*) PHILOSOPHY—Candidates for Final Honors must not have been classed below grade B in Philosophy A, and must have taken at least three courses from among those offered to Seniors by the departments of Philosophy and Education and Psychology, and must not have been classed below grade B in any of them. They will also be required to submit, on or before May 1, an essay, containing not less than 5000 words on some subject assigned by the Professors of Philosophy, Ethics, and Psychology, and announced on or before December 1 preceding.

Graduation Theses

31 Each candidate for graduation shall, on or before the 15th of December, with the approval of the instructor in charge of one of the courses in which he has studied, or is studying, select for thesis, or essay, some subject connected with that course, and he shall, under such guidance and with such help as the

instructor may deem it right to give him, complete the thesis, or essay, and submit it to the Dean on or before April 2 of each year. This thesis, or essay, shall be judged by the head of the department in which the chosen subject lies; and the judgment shall be passed upon the merit of the thesis, or essay, both in its substance and in its style, and shall be reported in writing by the head of the department to the Dean. In his return to the Dean upon a graduation thesis, the examining officer shall report:

1. A grade as to substance (18);
2. A grade as to style;
3. A judgment upon its merits as a whole.

Each thesis shall contain, as appendix, a list of authorities that have been used. It shall contain at least (2000) two thousand words, unless there be special reasons for the reduced length; and it shall be retained as the property of the College, in charge of the librarian.

If any student fail to comply with these requirements, or if his thesis, or essay, be rejected, he shall not be recommended to the Trustees for graduation.

The graduating theses must be written on firm, strong paper, eleven by eight and one half inches in dimensions, and a space of one and one-half inches on the inner margin must be left free from writing.

Honorable Dismission

32 An honorable discharge shall always be granted to any student in good standing, who may desire to withdraw from the College; but no student under the age of twenty-one years shall be entitled to a discharge without the assent of his parent or guardian, given in writing to the President.

COURSES OF INSTRUCTION

33 An elective course may, in his discretion, be withdrawn by the professor offering it, when it shall have been elected by fewer than three students.

34 Special students may take any course, prescribed or elective, on the approval in writing of the Dean, to whom they must apply for admission.

35 The following regulations are obligatory upon all students:

(*a*) No prescribed course can be taken as an elective.

(*b*) No optional course can be taken except by permission of the Dean, nor can be counted for a degree under any circumstances.

(*c*) Every student must have taken one course in natural science including laboratory work, before graduation.

(*d*) Courses in laboratory work or in drawing can be counted for only one half the number of hours actually occupied.

(*e*) No student can take more than four hours (except in laboratory work or in drawing) assigned to the same day, except by permission of the Dean.

(*f*) No student can take more than six hours in any one department except by permission of the Dean.

(*g*) All elective courses are taken subject to the conditions imposed by the head of the department.

(*h*) Any student may be excluded from an elective course on the report of the instructor to the Dean that this is advisable; and the student shall then be required to elect some other equivalent course.

36 No changes in elective courses can be made, except by permission of the Dean, to whom application must be made in writing with a statement of reasons.

37 Students are required to give notice to the Dean of their choice of electives, upon blanks provided at the Dean's office, on or before September 5. They must avoid conflict of subjects at the same hour, and for that purpose should consult the hour-scheme. Students are advised to make their choice upon a settled plan, consistent with their aims in education, and especially to consult with their instructors in the subjects chosen.

38 Students are expected to attend upon the Wednesday preceding the first Monday in October, which in 1897 falls on Wednesday, September 29, for registration and the payment of matriculation fees. Failure on the part of any student to present himself at the first hour of any elective course may be regarded as sufficient reason to exclude him therefrom ; and every student who is late in entering his elective courses will be charged with absences equal in number with the hours missed.

Freshman and Sophomore Classes

The studies of the freshman class occupy fifteen hours a week and are all obligatory, except that a freshman must choose French or German (that one of them upon which we was examined for admission), but is not required to take both. The studies of the sophomore class require sixteen hours a week, and are all obligatory ; a student may, however, substitute chemistry, three hours a week, for any language, ancient or modern, except English.

Distribution of subjects and hours in the freshman and sophomore years :

39 In the freshman year :

	Hours a week.		Hours a week.
Greek	3	Mathematics	3
Latin	3	French or German	3
Rhetoric	3		

40 In the sophomore year :

	Hours a week.		Hours a week.
Greek	3	Mathematics	2
Latin	3	History	2
Literature	3	French or German	3

Chemistry (in place of Greek, Latin, French, or German), 3 hours.

A freshman or a sophomore who shall pass satisfactory examinations in the French and German of the first and second years, may substitute an elective course in French, German, Italian, or Spanish, on the recommendation of the head of the department.

Junior Class

For the studies of the junior class fifteen hours a week are required ; of these, four are for obligatory studies and eleven for elective courses.

41 The required studies are :

	Hours a week.
History and Political Economy	2
Logic and Psychology	2

Written work in English, under the direction of the Professor of Rhetoric, is required of each junior.

42 The elective courses open to the juniors are:

Astronomy.....One course
Biology.....One course
Botany.....Two courses
Chemistry.....Two courses
English.....Two courses
Geology.....One course
German.....Three courses
Greek.....Two courses
History.....One course
Language, general introduction to the study of....One course
Latin.....Three courses
Mathematics.....Two courses
Mechanics.....One course
Oriental Languages:
  Hebrew.....Two courses
  Sanskrit.....One course
Physics.....One course
Political Economy.....One course
Rhetoric and English Composition.....Four courses
Romance Languages:
  French.....Two courses
  Italian.....Three courses
  Spanish.....Two courses

Senior Class

43 Seniors are required to take fifteen hours of elective courses, the following being open to them:

Astronomy.....Three courses
Botany.....Six courses
Chemistry.....Three courses
English.....Nine courses
Geology.....Three courses
Germanic Languages:
  German.....Five courses
  Gothic.....One course
  Scandinavian.....Two courses
  German Philology, introduction to.....One course
Greek.....Nine courses
History.....Seven courses
Language, introduction to study of.....One course
Latin.....Seven courses
Literature.....Two courses
Mathematics.....Four courses
Mechanics.....Three courses
Oriental Languages:
Hebrew.....Four courses
Semitic.....Six courses
Indo-Iranian.....Two courses
Philosophy, Psychology, and Education:
  Philosophy.....Two courses
  Psychology.....Six courses
  Education.....Two courses
Physics.....Eight courses
Political Economy.....Six courses
Rhetoric and English composition.....Six courses
Romance Languages:
  French.....Eight courses
  Italian.....Three courses
  Spanish.....Three courses
  Romance Philology....One course
  Zoölogy.....Three courses

In addition to the above, first-year courses in the School of Law, School of Mines, and the College of Physicans and Surgeons are open to them; and such as may desire to do so can prepare themselves for advanced standing in those schools by electing these first-year courses, as a whole or in part, and counting them for the degree of Bachelor of Arts.

NOTE.—Seniors who take the whole, or the greater part, of their studies in the College of Physicians and Surgeons, or in the Schools of Mines, Chemistry, Engineering, and Architecture, must pay a tuition fee of two hundred dollars.

44 For details as to the several courses enumerated above, see statements of the departments of instruction and special circulars of Courses in Columbia College.

45 A new curriculum has been adopted and will go into effect July 1, 1897.

This curriculum contemplates, in effect, two classes of students,—those who enter the college with Greek, and those who enter upon a substitute for Greek.

1. All students who wish to pursue the former curriculum of the College, of which Greek is an essential part, can do so under the new curriculum as well as under the old.

2. If their tastes are for the classics, they can enjoy, under the new curriculum, much greater privileges of classical study than under the old.

3. If, as a part of their liberal education, they wish to make a thorough study of English, or of the modern languages, or of mathematics, or of history, or of philosophy, or of political economy, or of the natural sciences, they can do so under the new curriculum as they could not under the old.

4. This is true of the students who enter with Greek as well as of those who enter without Greek.

5. Students intending to go through any of the schools of applied science, may, by entering the College without Greek, obtain at the end of four years the degree of Bachelor of Arts; and can then enter the third year of such school at the same age as now, inasmuch as students as a matter of fact enter the College two years earlier than they now enter a school of applied science. Thus, by means of this curriculum, such students may enjoy a liberal education before they enter upon the strictly professional part of the applied science work, without increasing their age at the time of receiving the professional degree.

6. Students desiring to shape their college course with reference to advanced work under the Faculty of Philosophy, as well as in Political Science and in Pure Science, can do so to much better advantage under the new curriculum than under the old. So, also, they may secure more history and political science preparatory to the study of law; and more chemistry, botany, and biology preparatory to the study of medicine.

Under the new curriculum, no one can obtain the degree of Bachelor of Arts who does not know something of at least one ancient language, and who has not, therefore, looked out through that window upon the world of antiquity. He must know, also, something of history, something of philosophy, something of political economy, a good deal of English, something of mathematics, and something of at least one natural science. He must also have a reading knowledge of both French and German. This is the norm for every student. Within the same general range of subjects, he may place the emphasis of his studies upon one group of subjects or another.

46 CONDITIONS OF ADMISSION under the new curriculum. All candidates for admission to the freshman class must pass satisfactory examinations in ENGLISH; LATIN; MATHEMATICS; FRENCH or GERMAN, as set down under the head of Entrance Examinations, page 151.

And one or other of the following groups, designated B, C, D :

B (*a*) *Greek :* as in 8, 9, 10, 11, page 153.
Candidates will be required to show a fair degree of knowledge with the general history of Greece
(*b*) *French :* as in 15*a* and 16*a*, page 153.

C (*a*) *Greek :* as above in B
(*b*) *German :* as in 15*b* and 16*b*, page 153.

D (*a*) *Mathematics* as in 12, 13, 14, page— ; and in addition :
(*b*) Algebra from quadratics [equivalent of Wells's College Algebra]
(*c*) Geometry, volumetric and spherical [equivalent of Davies' Legendre, Books 6–9]
(*d*) *French* as above in B
(*e*) *German* as in C
(*f*) *Chemistry ;* 1. The non-metallic elements, as usually given in high school text-books
2. An approved laboratory course of at least forty experiments actually performed at school, by the candidate, as given in Remsen's, or Armstrong and Norton's Laboratory Manuals ; or
(*g*) *Physics ;* the equivalent of Hall and Bergen's text-book of physics, and an approved laboratory course of at least 40 experiments, actually performed at school by the candidate ; or,
(*h*) With the permission of the Dean, an acceptable equivalent in some other branch of science, the scope of the examination to be determined in advance by the head of the department concerned

47 The proposed curriculum requires an elementary knowledge of *both* French and German of all candidates for the degree of A.B. In the case of students who offer Greek at entrance, one modern language is required for admission, and a five-hour course in the second modern language is prescribed during the Freshman year. Students are encouraged to offer both modern languages at entrance, for they will then be relieved of the obligation to pursue a modern language during the Freshman year, and the time thus gained may be devoted to elective studies.

Students who do not offer Greek at entrance must offer both French and German, and are thus relieved of the obligation to pursue one of those studies in College. On the other hand, they must take in rhetoric a five-hour course during the Freshman year.

But one alternative for Greek is allowed, namely, advanced mathematics, natural science, and a second modern language.

47 For details of courses under the new curriculum, see special circular.

REGISTER OF STUDENTS

(For home and city address in full see Directory of Students.)

SENIOR CLASS

Babcock, Woodward.....New York
Bissell, Philip.....New York
Bogert, Theodore Lawrence.....New York
Bookman, Arthur.....New York
Boote, Charles William.....New York
Brodt, Philip Ernest.....New York
Brooks, Frank Hoag.....New York
Clarke, William Joseph.....New York
Cluff, Frederick Hassard.....New York
Dempsey, William Theobald.....Iowa
Dike, Francis Harold.....New York
Edwards, Walter Strong.....Connecticut
Elgas, Francis Bertram.....New York
Ellard, Charles Henry.....New York
Ely, Addison, Jr.....New Jersey
Flagler, Harry Harkness.....New York
Fry, William Henry.....New York
Fuller, Seymour Keyes.....New York
Gilbert, Benjamin Thorn.....New York
Griffin, Arthur Benedict.....New York
Gunton, William Boone.....New York
Hellman, Edgar Arnold.....New York
Hess, Walter Leon.....New York
Hitchcock, Charles Knap, Jr.....New Jersey
Kaplan, Bernard Michael.....New York
Lindenfelser, Stephen.....New York
Lyon, John Henry.....New Jersey
Maguire, Samuel Wilkinson.....Connecticut
Marvin, Arthur Lockett.....New York
Marvin, Burdette Kellogg.....New York
Merrill, Edward Gibbs.....New York
Petty, Nathan Orcutt.....New York
Prentice, John Hill.....New York
Pressprich, Reginald William Grant.....New York
Putnam, Albert William.....New York

Reese, Franklin Edwin.....New Jersey
Sargent, Charles Chapin, Jr.....New York
Sawyer, Henry Hathorne.....Maine
Senftner, George Washington.....New York
Shanahan, William Seward.....New York
Shearman, Robert Willis.....New York
Shimmon, Paul.....Persia
Smith, Oliver.....New York
Spiegelberg, Eugene Edward.....New York
Spingarn, Arthur Barnett.....New York
Strauss, Morris Lincoln.....New York
Tanner, Edwin Platt.....New Jersey
Weisse, Faneuil Suydam.....New York
Wharton, George Wilson.....New York
Wheaton, Charles Frederick.....New York
Yohannon, Isaac.....New York
Zerban, Alexander Henry William.....New York
Senior Class.....52

JUNIOR CLASS

Alsberg, Julius.....New York
Anderson, Ellery Oswald.....New York
Averill, Morton Knight.....New York
Bulkley, Lucius Constant.....New York
Burke, Charles Clinton, Jr.....New York
Comstock, William Williams.....New York
Cook, Harry Randel.....New Jersey
Curry, Frank Holmes.....New York
Demarest, John Woodbridge.....New York
Depew, Frank.....New York
de Young, Arthur Bull.....New York
Dresser, Frank Griggs.....Massachusetts
Edwards, Charles Hebard.....Connecticut
Einstein, Lewis David.....New York
Fishel, Leo.....New York
Haas, Harry Louis.....New York
Higginson, Stephen, Jr.....New York
Iglehart, Edwin Taylor.....New York
Iselin, Ernest.....New York
Jacobus, George Richard.....New York
Keppel, Frederick Paul.....New York
Lee, Arthur.....New York
Lemcke, Ernst Gustav.....New York
Lester, Maxwell.....New York
Lewine, Jacob Lester.....New York
Mitchell, John Fulton Berrien, Jr.....New York

Morrow, Albert Sydney.....New York
Morse, Robert King.....New York
Parks, John Waring.....New York
Pomeroy, Ralph Brouwer.....New York
Randall, Henry Thomas.....New Jersey
Randolph, Lothrop.....New York
Roberts, Gerard.....New York
Sandy, William Charles, Jr.....New Jersey
Schlussel, Jacob Smith.....New York
Stern, Nathan.....New York
Stern, Randall Hoyt.....New York
Symmes, William Bittle, Jr.....New York
Tenney, Alvan Alonzo.....New York
Vinton, Stallo.....New York
Vogel, Martin Heyman.....New York
Wagner, Webster.....New York
Watson, Jesse, Jr.....New York
Westerfield, William Rogers.....New York
Worthen, Samuel Copp.....Maine
Zeiger, Franklin.....New Jersey
Junior Class.....46

SOPHOMORE CLASS

Acken, George Alonzo.....New Jersey
Baker, Charles Adkins.....New York
Birckhead, Hugh McCulloh.....Rhode Island
Bowman, Harold Hosford.....New Jersey
Bradley, William Aspenwall.....New York
Bross, William Warren.....New Jersey
Cardozo, Ernest Abraham.....New York
Clapp, Walter Nicholas.....New York
Corning, William Butler.....New York
Deane, Sumner.....New York
de Rose, Edward Livingston.....New York
DeWitt, William Archelaus.....New York
Eldert, Henry Cameron.....New York
Elmer, Charles Howard.....New York
Fisher, William King.....New York
Fort, George Phelps.....New York
Fowler, Arthur Alexander.....New York
Giffin, Irving.....New Jersey
Graves, Horace Cutler.....New York
Hackett, Frank Sutliff.....New York
Harrison, John Smith.....New Jersey
Hellman, George Sidney.....New York
Hinck, Otto Helmuth.....New Jersey

Hinricks, Frederic William, Jr. ..... New York
Hoadley, Harwood ..... New York
Hopkins, George Gallagher, Jr. ..... New York
Hudson, Darwin Shaw ..... New York
Huntoon, Oscar Clark ..... New Jersey
Josephthal, Sidney Louis ..... New York
LaRoche, Edwin Marks ..... New York
Lesem, William ..... New York
Lichtenstein, Oscar Richard ..... New York
McCann, John Franklin, Jr. ..... New York
Marcus, John ..... New Jersey
Mitchel, John Purroy ..... New York
Moffatt, Miles Rees ..... New York
Moran, Charles ..... New York
Morris, Stuyvesant Fish, Jr. ..... New York
Newberry, Merritt Eben ..... New York
Parr, Ferdinand Van Siclen ..... New York
Parsons, Geoffrey ..... New York
Parsons, Theophilus ..... New York
Pell, James Duane ..... New York
Pierrepont, Robert Low ..... New York
Ropes, Ernest Chapin ..... New York
Schley, Henry Spaulding ..... New York
Schley, James Montfort, Jr. ..... New York
Schuyler, Montgomery, Jr. ..... New York
Senftner, Alexis Eugene ..... New York
Seward, Frederic Kimber ..... New York
Sherer, Prescott Alfriend ..... New York
Sichel, Eugene ..... New York
Simpson, Richard Gordon ..... New Jersey
Slade, Harvey Shattuck ..... New York
Staunton, Henry Capen ..... New York
Tuttle, Charles Henry ..... New York
VanName, Warren Mersereau ..... New York
Wager, Weston Wesley ..... New York
Weaver, William M., Jr. ..... New York
Wilson, Jonathan Dunham, Jr. ..... New York
Wormser, Moritz ..... New York
Zinsser, Hans William ..... New York
Sophomore Class 62

FRESHMAN CLASS

Alsberg, Henry Garfield ..... New York
Barker, Stephen ..... New York
Batcheller, Franklin Alden ..... New York
Bingham, Lee Mansfield ..... New York
Bogue, Morton Griswold ..... New York

Bowman, James Floyd ..... New Jersey
Boyesen, Hjalmar Hjorth..... New York
Brueninghausen, Herbert Washington..... New York
Bullard, Frederic Lewis..... New York
Cane, Melville Henry..... New York
Catlin, George de Grasse..... New York
Clark, Harrison, Jr..... New York
Coan, Philip Munson..... New York
Coffee, Rudolph Isaac..... California
Cohn, Alfred Einstein..... New York
Curran, Rose Ambler..... New York
de Peyster, Frederic Ashton..... New York
Dixon, Sidney Harry..... New York
Duden, William..... New York
Duffield, Roy Farrell..... Massachusetts
Durham, Roger..... New York
Erskine, John..... New Jersey
Fackenthal, Joseph Diehl..... New York
Finnigan, James Joseph..... New York
Fiske, William Mead Lindsley, Jr..... New York
Fleming, Charles Edward..... New York
Foster, Hugh Molleson..... New York
France, Melville Jefferson..... New York
Gallatin, Goelet..... New York
Gardiner, Philip Parkhurst..... New York
Giddings, Henry Starr..... New York
Gould, John Wesley..... New York
Grannis, Pierre E..... New Jersey
Gregory, William King..... New York
Harrison, Henry Sydnor..... New York
Hawks, Everett Murl..... New York
Hewitt, Edward Shepard..... New York
Hoffman, Irving Morehouse..... New York
Howe, Joseph Parkhurst..... New York
Hull, Robert Chipman..... New York
Irving, Pierre Frederick..... New York
Johnson, John Barent..... Connecticut
Jones, Frederick Vincent..... New York
Kellock, Harold Anderson..... New York
Kidde, Frank ..... New Jersey
Knapp, James Rintoul ..... New York
Krickl, Maurice..... New York
Leale, Loyal..... New York
Lesinsky, Leo..... New York
Lilly, Frederic Ferdinand..... New York
Lowenstein, Oscar..... New York
Lum, Ralph Emerson..... New Jersey

MacKay, Joseph Wild.....New York
McKenna, James John, Jr.....New York
Marble, William Edward.....New York
Maxwell, William Henry, Jr.....New York
Meeker, Arthur Youle.....New Jersey
Mehler, Albert Joseph.....New York
Miner, Elijah Daniel.....New York
Mitchell, Harry Brainerd.....New York
Montgomery, Henry Eglinton.....New York
Moore, William Underhill.....New York
Muirheid, John.....New Jersey
Nelson, Giffard Arthur.....New York
Neugroschl, Abraham Elijah.....New York
Newborg, Leo David.....New York
Norman, Mark Wilber.....Connecticut
O'Connor, Eugene Franklin, Jr.....New York
Ogden, Charles Jones.....New York
Palmer, Richard Henry.....New Jersey
Parker, Gordon.....New York
Pearse, Frederic Montague Penley.....New Jersey
Pier, Garrett Chatfield.....New York
Pollard, David Henry.....Connecticut
Putnam, Sidney Haven.....New York
Quackenbos, George Payn.....New York
Raymond, Edward Holman, Jr.....New Jersey
Rich, Walter Henry.....Georgia
Rider, Chester Crosby.....Missouri
Rochester, Haydon.....New York
Rosenberg, Daniel Davis.....New York
Schafer, Algernon Sidney.....New York
Schlussel, Walter Sylvan.....New York
Siegel, Harold Lawrence.....Utah
Smith, Alexander Godfrey.....New York
Southack, John William.....New Jersey
Sparrow, James Everett.....New York
St. Clair, Harry Hull, Jr.....New York
Stevens, Theodosius Fowler.....New Jersey
Stoddart, Charles William.....New York
Strunsky, Simeon.....New York
Turner, Wallis Smythe.....New York
Walter, Edwin Joseph.....New York
Ward, Sylvester L'Hommedieu.....New York
Weinstein, Mayo.....New York
White, Thomas Gilbert.....Michigan
Whittaker, Thomas Shirley.....New York
Williams, John Nelson.....New York
Wortmann, Martin.....New York

Freshman Class.....99

SPECIAL STUDENTS

Allison, William ..... New York
Austin, Chellis Arabel ..... New York
Bijur, Samuel Henry ..... New York
Borg, Walter Bennett ..... New York
Britton, Winchester ..... New York
Buchtel, Frost Craft ..... Indiana
Buffinton, John Allen ..... Rhode Island
Cabaniss, Joseph Warren, Jr. ..... Georgia
Childs, Herbert Howard ..... New York
Davenport, Ernest Warren ..... New York
Dixon, William Henry ..... New York
Edwards, James Alexander ..... New York
Ehret, George, Jr. ..... New York
Einstein, Lewis ..... New York
Enteen, Joel ..... New York
Farish, George Edwin ..... Colorado
Gilbert, Clinton Wallace ..... New York
Gray, Arthur Romayn ..... New York
Hearne, Jack Leonard ..... Texas
Kaler, Lewis Edward ..... Maine
Kellogg, Walter Guest ..... New York
Kelly, George Malin Davis ..... New York
Knapp, John Covington ..... New Jersey
Maltby, Lucius Upson ..... New York
Matthew, George ..... New Brunswick
Maverick, William Chilton ..... Texas
Miller, Harry Augustus ..... Oregon
Morgan, William Millerd ..... New York
Mortimer, Lawrence ..... New York
Mosenthal, Herman Otto ..... New York
Packard, Ralph Gooding, Jr. ..... New York
Parks, Martin Phillips ..... New York
Pierrepont, Henry Evelyn ..... New York
Robinson, Alonzo Clark ..... New York
Rogers, Richard Morrison, Jr. ..... Georgia
Russell, James Townsend ..... New York
Seguine, Edward Murray ..... New York
Sheperd, Grant ..... Mexico
Smith, Davison Heermance ..... New York
Tillotson, William Leslie ..... New Jersey
Weil, Henry Lehman ..... New York
Wood, Charles Fiske ..... New York
Wood, Ernest Wetherill ..... New York

Special Students 43

UNIVERSITY STUDENTS TAKING ONE COURSE OR MORE IN THE COLLEGE.

From the School of Law	7
From the School of Political Science	3
From the School of Philosophy	1
From the School of Pure Science	1
Total	12

SUMMARY

Senior Class	52
Junior Class	46
Sophomore Class	62
Freshman Class	99
Special Students	43
Students primarily registered in the College	302
Students from other faculties of the University	12
Total	314

SCHOOL OF LAW

Officers of the Faculty

WILLIAM A. KEENER, LL.D. ..... *Dean, and Ex-Officio Member of the University Council*
GEORGE W. KIRCHWEY, A.B. ..... *Secretary*
FRANCIS M. BURDICK, LL.D. ..... *Elected Delegate to the University Council*

The Faculty

SETH LOW, LL.D., *President*

WILLIAM A. KEENER, LL.D., *Kent Professor of Law, and Dean*
GEORGE M. CUMMING, A.B., *Professor of Law*
FRANCIS M. BURDICK, LL.D., *Dwight Professor of Law*
GEORGE W. KIRCHWEY, A.B., *Professor of Law*
GEORGE F. CANFIELD, A.B., LL.B., *Professor of Law*
HENRY W. HARDON, A.M., LL.B., *Professor of Law*

From the Faculty of Political Science

JOHN W. BURGESS, Ph.D., LL.D., *Professor of Political Science, and Constitutional Law*
MUNROE SMITH, A.M., J.U.D., *Professor of Roman Law and Comparative Jurisprudence*
FRANK J. GOODNOW, A.M., LL.D., *Professor of Administrative Law*
JOHN B. MOORE, A.B., *Hamilton Fish Professor of International Law and Diplomacy*

Lecturers

JOHN ORDRONAUX, LL.D., *Professor of Medical Jurisprudence*
HERBERT NOBLE, A.M., LL.B., *Lecturer on Bailments and Code Pleading and Practice*
ALEXANDER TISON, A.M., LL.B., *Lecturer on Equity.*

Prize Lecturer

DAVID BANDLER, A.B., LL.B.

PURPOSES OF THE SCHOOL

The design of the school is to prepare students for practice in any State of the Union, and in furtherance of this object the endeavor is made to give a thorough, practical, and scientific education in the principles of the law included in the following subdivisions:

First.—The COMMON LAW, in its development and as it exists to-day in the United States, together with such statutory modifications as are generally in force in the several States.

Second.—EQUITY, in its development and as it exists to-day in the United States.

Third.—The LAW of the STATE OF NEW YORK, including PRACTICE and PLEADING under the CODE of CIVIL PROCEDURE, and the doctrines of substantive law peculiar to that State in regard to Trusts of Real and Personal Property, Powers, Perpetuities, Charitable Bequests, Accumulations, Limitation of Future Estates, Descent and Distribution, Mortgages and Contracts.

Fourth.—The PUBLIC LAW of the United States, and the Principal EUROPEAN COUNTRIES, including CONSTITUTIONAL LAW, ADMINISTRATIVE LAW, and INTERNATIONAL LAW.

Fifth.—COMPARATIVE JURISPRUDENCE, ROMAN LAW, and the HISTORY of EUROPEAN LAW.

COURSE OF INSTRUCTION

The course of instruction leading to the degree of bachelor of laws covers a minimum period of three years, in which there are offered sixty-two hours of instruction a week throughout the year. In the first year are offered fourteen hours of instruction a week; in the second year twenty-four hours of instruction a week; in the third year twenty-four hours of instruction a week.

The degree of bachelor of laws is conferred only upon students who have passed satisfactory examinations in courses covering a total of forty-two hours.

To obtain this degree in three years the student must take courses covering fourteen hours a week in each of the three years.

While no student will be allowed, without the consent of the faculty, to present himself for examination in any one year in subjects covering more than the number of hours above named, any one desiring to prolong the period of study for the degree of bachelor of laws beyond three years, will be permitted to reduce thereby the amount of work in any one year necessary for the degree. The faculty would strongly advise students who have not had an opportunity of thoroughly studying History, Economics, and Finance, so to prolong their course of study in order that they may avail themselves of the opportunity offered in the School of Political Science for studying these subjects. For the courses offered by the Faculty of Political Science in these subjects see pages 60 and 87.

The work selected by a student for a degree in law is subject in every case to the approval of the Dean.

First Year

ELEMENTS OF JURISPRUDENCE *—2 hours a week. Professor KEENER

EQUITY *—The Origin and Nature of Equity, Bills of Peace, Interpleader, Quia Timet, Removal of Cloud upon Title, the Jurisdiction of Equity over Torts. 2 hours a week. Professor KEENER

CONTRACTS—4 hours a week. Professor CUMMING

REAL AND PERSONAL PROPERTY—3 hours a week. Professor KIRCHWEY

TORTS—2 hours a week. Professor BURDICK

CRIMINAL LAW AND PROCEDURE—2 hours a week. Professor MOORE

COMMON LAW PLEADING AND PRACTICE*—2 hours a week. Professor HARDON

The instruction in Elements of Jurisprudence is based on Keener's Selections on Elements of Jurisprudence. The instruction in Equity is based on Keener's Cases on Equity Jurisdiction. The instruction in Contracts in both the first and second years is confined to the consideration of pure contracts, or the principles involved in the formation, performance, and discharge of contract obligations, and is based in the first year on Keener's Selections on Contracts. The instruction in Real and Personal Property in the first year is based on Digby's History of the Law of Real Property and Gray's Cases on Property; in Criminal Law and Procedure, on Beale's Cases on Criminal Law; in Torts, on Pollock on Torts, and Burdick's Cases on Torts; in Common Law Pleading and Practice, on Stephen on Pleading and Ames's Cases on Pleading.

Second Year

CONTRACTS AND QUASI-CONTRACTS—2 hours a week. Professor HARDON

EQUITY—The Jurisdiction of Equity over Torts; Trusts. 2 hours a week. Professor KEENER

REAL AND PERSONAL PROPERTY—3 hours a week. Professor KIRCHWEY

ADMINISTRATIVE LAW—2 hours a week. Professor GOODNOW

AGENCY—2 hours a week. Professor CANFIELD

BAILMENTS AND CARRIERS—2 hours a week. Mr. NOBLE

COMPARATIVE CONSTITUTIONAL LAW—3 hours a week. Professor BURGESS

INSTITUTES OF ROMAN LAW—2 hours a week. Professor SMITH

NEGOTIABLE PAPER—2 hours a week. Professor BURDICK

SALES OF PERSONAL PROPERTY—2 hours a week. Professor BURDICK

CODE PRACTICE †—2 hours a week. Mr. BANDLER

* The courses in Jurisprudence and Equity are together the equivalent of two hours a week through the year. The study of Equity is not begun until the completion of the course in Jurisprudence. The instruction in Common Law Pleading and Practice is given from February to June. When not otherwise stated, the course of instruction in any given subject extends through the year.

† The instruction in Code Practice is given from February to June; in Equity Pleading and Practice from October to February. When not otherwise stated the course of instruction in any given subject extends through the year.

EQUITY PLEADING AND PRACTICE*—2 hours a week. Mr. BANDLER

The course on Quasi-Contracts is based on Keener's Cases on Quasi-Contracts and treats of rights arising independently of either Tort or Contract, as the recovery of money paid under duress, under compulsion of law, or under mistake ; waiver of tort ; the right to recover independently of contract for services rendered, and the right to recover for benefits conferred under an uninforceable contract. The instruction in Equity is based on Keener's Cases on Equity Jurisdiction and Ames's Cases on Trusts. In the course on Administrative Law are considered the organization of administrative authorities ; their methods of action and the control exercised over them by the Legislature and the Courts, particularly through the issue of the writs of mandamus, prohibition, certiorari, habeas corpus, and quo warranto. In the course on Code Practice students are required to prepare the principal papers required in practice under the Code. The course in Equity Pleading and Practice is given with special reference to the Equity Procedure of the Federal Courts of the United States, students being required to prepare the pleadings and other papers incident to a suit in equity. The instruction in Real and Personal Property is based on Gray's Cases on Property ; in Agency, on Wambaugh's Cases on Agency ; in Bailments and Carriers, on McClain's Cases on Carriers.

Third Year

CORPORATIONS—2 hours a week. Professor KEENER

EQUITY—Trusts ; the Jurisdiction of Equity over Contracts, including the specific performance, reformation, and rescission thereof ; Account, Equitable Conversion. 2 hours a week. Mr. TISON

EVIDENCE—2 hours a week. Professor CANFIELD

INTERNATIONAL LAW—2 hours a week. Professor MOORE

COMPARATIVE JURISPRUDENCE—2 hours a week. Professor SMITH

PARTNERSHIP—2 hours a week. Professor BURDICK

CODE PLEADING AND PRACTICE—2 hours a week. Mr. NOBLE

RECEIVERS—2 hours a week. Mr. BANDLER

SURETYSHIP AND MORTGAGE—2 hours a week. Professor HARDON

WILLS AND ADMINISTRATION—2 hours a week. Professor HARDON

INSURANCE †—2 hours a week. Mr. BANDLER

CONFLICT OF PRIVATE LAW—1 hour a week. Professor SMITH

MUNICIPAL CORPORATIONS ‡—2 hours a week. Professor GOODNOW

LAW OF TAXATION ‡—2 hours a week. Professor GOODNOW

* See note on preceding page.

† The instruction in Insurance is given from October to February ; in Receivers from February to June. When not otherwise stated the instruction in any given subject extends through the year.

‡ The instruction in Municipal Corporations is given from October to February ; in the Law of Taxation, from February to June. When not otherwise stated, the instruction in any given subject extends through the year.

Doctrines Peculiar to New York Law— 1 hour a week. Professor Canfield

Courses in the Second Year not Offered for the Degree During that Year and Open to Third-Year Students as Part of Their Work for the Degree—10 hours a week

The instruction in Equity is based on Ames's Cases on Trusts, and Keener's Cases on Equity Jurisdiction. In the course on Code Pleading, students are required to prepare pleadings, and the other principal papers necessary under the Code. The instruction in Corporations is based on Cumming's Cases on Private Corporations; in Evidence, on Thayer's Cases on Evidence; in Insurance, on Richards on Insurance; in Negotiable Paper, on Ames's Cases on Bills and Notes; in Partnership, on Ames's Cases on Partnership; in Wills and Administration, on Gray's Cases on Property.

Moot Courts

Moot Courts are held during the academic year, open only to members of the second- and third-year classes.

Courses Recommended to Law Students Though not Accepted for the Degree of LL.B.

Constitutional History of Europe—3 hours a week for the first term. Professor Osgood

Constitutional History of the United States—3 hours a week for the second term. Professor Burgess

Constitutional History of England—2 hours a week. Professor Osgood

Historical and Practical Political Economy—3 hours a week. Professor Mayo-Smith

Taxation and Finance—2 hours a week. Professor Seligman

Railroad Problems—3 hours a week. Professor Seligman

History of Political Theories—3 hours a week for the first term. Professor Dunning

Medical Jurisprudence—3 hours a week, from October to January. Professor Ordronaux

Requirements for Admission

All applicants for admission to the school must be of good moral character, and must be at least eighteen years of age for admission to the work of the first-year class at its formation, and of a corresponding increase of age for admission to advanced standing.

Graduates of colleges and scientific schools in good standing, and all persons who have received the academic diploma of the Regents of the State of New

York or a certificate acceptable to the Regents in lieu thereof, are admitted without examination.*

All other applicants, whether candidates for the degree or not, must pass the examination required for admission to the Freshman class of Columbia College, an equivalent amount of French and German being accepted as a substitute for Latin and Greek.

Advanced Standing

No applicant will be admitted to advanced standing beyond the second year except by special vote of the faculty. Applicants for admission to the second-year class must produce satisfactory evidence of having spent at least one year in some school having a required course of study of three years leading to the degree of LL.B., and must in addition thereto pass satisfactory examinations in the work of the first year.

Applicants for admission to the second-year class qualifying as candidates for the degree by presenting the Regents' fifty-count certificate, or a certificate acceptable to the Regents in lieu thereof, or by passing the examination for admission to the Freshman class of Columbia College, will be required to produce evidence of having qualified at least one year prior thereto.

No certificate or diploma will be accepted in lieu of these examinations for advanced standing.

Special Students

Applicants who do not desire to become candidates for a degree, may, if qualified to become candidates, pursue a special course of study approved by the Dean. Such students will be classified as special students. No one will be admitted to the school to pursue advanced work as a special student who has not passed satisfactory examinations in the contract, equity, and property courses preceding such work in point of time.

Special students must present themselves for examination in each subject selected by them at the first examination held therein, and must pass satisfactory examinations in a majority of the subjects, as a condition of continuing in the school.

Examinations

Written examinations are held at the end of each year on the subjects of that year and on the subjects of the first and second years during the week preceding the first Monday in October.

No student is admitted to advanced standing who has failed to pass satisfactory examinations in more than four hours of work per week. Any student failing in the final examinations held at the end of the first and second years may present himself for re-examination during the week preceding the first Monday in October. No student failing a third time in any given subject will be allowed to continue in the school.

No special examinations are given.

* The fifty-count certificate heretofore issued, as the equivalent of the academic diploma, will not be issued after February 1, 1897. In lieu thereof, will be issued a forty-eight academic-count certificate. Applicants will not be allowed to present the six preliminary studies for this certificate. For further information as to Regents' certificates, address "The University of the State of New York, Examination Department, Albany, New York."

Library

Every facility is given to students to make use of the Law Library containing about 25,000 volumes, and of the general Library, containing about 230,000 volumes.

The library is open for use from 8.30 A.M. to 11 P.M., every secular day in the year except holidays.

Admission to the Bar

An office clerkship is no longer required of applicants for admission to the New York Bar.

While the course of study leading to the degree of LL.B. covers a period of three years, college graduates who have been in regular attendance upon the lectures and exercises of this school for two years after receiving their college degree, are entitled to apply for admission to the New York Bar at the end of their second year of study. Students who are not college graduates are entitled to apply for admission to the New York Bar at the end of their third year of regular attendance upon the lectures and exercises of this school.

In New Jersey, eighteen months spent in this school is regarded as the equivalent for a like period of clerkship in a lawyer's office.

For further information address the Dean of the School of Law.

REGISTER OF STUDENTS

(For home and city address in full see Directory of Students.)

THIRD YEAR CLASS

Arnold, William B. ..... Massachusetts
Atterbury, Lawrence, A.B., *Columbia* ..... New York
Backus, Grosvenor Hyde, A.B., *Amherst* ..... New York
Barnes, Henry Burr, Jr., A.B., *Yale* ..... New York
Beach, George R. ..... New Jersey
Booraem, Alfred Wreaks ..... New York
Cahn, Emanuel Siegfried, B.S., *N. Y. City College* ..... New York
Case, George Bowen, A.B., *Yale* ..... Missouri
Cohn, Solomon A., A.B., *N. Y. City College* ..... New York
Cone, Bernard, M., A.B., *Johns Hopkins;* A.M., *Columbia* ..... Maryland
Crane, Alexander Mitchell, A.B., *Harvard* ..... New York
Cummings, Constantine Stanislaus, A.B., *Christian Brothers* ..... Missouri
Deputy, Ewing Leo ..... Ohio
Dwight, Frederick, A.B., *Yale* ..... New York
Ehrich, Jesse W., A.B., *N. Y. City College* ..... New York
Elliott, Robert W. B., A.M., *University of the South* ..... Tennessee
Eno, Henry Lane, A.B., *Yale* ..... Connecticut
Ewen, John, A.B., *Columbia* ..... New York
Feltenstein, Moses ..... New York
Fox, David Joseph, B.S., *N. Y. City College* ..... New York
Freeman, Clarence Randolph, A.B., *Columbia* ..... New York
Fullerton, Albert, A.B., *University of Kansas* ..... Kansas
Gilpin, Charles Monteith, A.B., *St. John's, Md.* ..... Maryland
Hare, Meredith, A.B., *Yale* ..... New York
Hare, Montgomery, A.B., *Yale* ..... New York
Hirsh, William Henry, A.B., *N. Y City College;* A.M., *Columbia* .. New York
Holter, Edwin O., A.B., *Yale* ..... Montana
Hutchins, Robert Hamilton, A.M., *Trinity, Conn.* ..... New York
Hyman, Maurice Samuel, A.B., *Harvard* ..... New York
Johnson, Ralph Henry, A.B., *University of Nebraska* ..... Nebraska
Kilbreth, James T., Jr., A.B., *Harvard* ..... New York
Kimball, Maulsby, A.B., *Columbia* ..... New York
Kuhn, Arthur Kline, A.M., *Columbia* ..... New York
Lazansky, Edward, A.B., *Columbia* ..... New York

Liebman, Walter Henry, A.B., *Columbia*.....New York
Lowe, Gerald Arthur.....New York
McCarthy, Charles Eddy.....New York
McCoun, William Townsend, Jr.....New York
Mason, Frank Heath.....New Jersey
Mason, William Thomas, A.M., *Columbia*.....New York
Mayer, Arthur.....New York
Michel, Samuel M.....New York
Middendorf, George Frederick, Jr., A.B., *Columbia*.....New York
Moore, Walter Jefferson, A.B., *Harvard*.....New York
Norrie, Adam Gordon, A.B., *Columbia*.....New York
Parry, David.....New York
Paskusz, Benjamin G., A.B., *N. Y. City College*, A.M., *Columbia*..New York
Pendas, Isidro, Jr.....New York
Pogson, Henry Berry, A.B., *Columbia*.....New York
Polk, Frank Lyon, A.B., *Yale*.....New York
Price, Arthur M.....New York
Quigley, John Gordon, A.B., *Harvard*.....New York
Reiley, Charles Conway.....New York
Riter, William Delamater.....Utah
Scarff, Paul Brown, A.B., *Hanover*.....Iowa
Schoenherr, Henry, Jr.....New York
Schütz, Walter Stanley, A.B., *Trinity, Conn*.....Connecticut
Selfridge, Edward Augustus, Jr., Ph.B., *University of California*..California
Shepard, Frederic White, A.B., *Columbia*.....New York
Steinert, Henry, Jr.....New York
Sturtz, Samuel.....New York
Tanzer, Lawrence Arnold, A.B., *Harvard*.....New York
Thayer, Stephen Fraser, A.B., *Columbia*.....New York
Toms, Nathaniel Compton.....New Jersey
Weed, Richmond, A.B., *Columbia*.....New York
Wielar, Abraham.....New York
Williams, James Dawes, A.B., *Yale*.....Massachusetts

Third Year Class..... 67

SECOND YEAR CLASS

Alexander, Bernard, A.B., *Columbia*.....New York
Andrews, Alexander Speer, A.B., *Princeton*.....Ohio
Bacon, Holcombe.....Georgia
Ball, Wilbur Laing, A.B., *University of Wisconsin*.....Wisconsin
Beard, Anson McCook, A.B., *Yale*.....New York
Bell, Clinton Edward, A.B., *Amherst*.....New York
Bennett, David C., Jr., A.B., *Brooklyn Polytechnic*.....New York
Brandt, Oscar Rutherford.....New York
Brewster, John H., Jr.....New York
Burrows, Fred. Rhodes, Ph.B., *Adelbert*.....Ohio

Burrows, Louis W.....Ohio
Byers, Mortimer Wardler.....New York
Cable, Benjamin Stickney, A.B., *Yale*.....Illinois
Carter, Walter Frederick, A.B., *Yale*.....New York
Chisholm, Charles Bishop.....Montana
Coffin, Herbert Lawton.....New York
Cohn, David, A.B., *Columbia*.....New Jersey
Cohn, Maurice, A.B., *Columbia*.....New Jersey
Cooke, Walter Evans, A.B., *Yale*.....New Jersey
Cooley, Alford W., A.B., *Harvard*.....New York
Daly, Edward Hamilton, A.B., *Columbia*.....New York
Davis, David Theodor, A.B., *McGill*.....New York
Day, Schuyler Emerson, A.B., *Columbia*.....New York
Deal, Frank Henry, LL.B., *Union*.....New York
Denton, Eugene Willis.....New York
Doran, Michael, Jr., A.B., *St. John's, N. Y.*.....Minnesota
Eberle, Charles F.....New York
Egner, Henry William, Jr., A.B. *Columbia*.....New Jersey
Ehrhorn, Oscar Weeks, A.B., *N. Y. City College*.....New York
Einbigler, Benjamin Franklin.....New York
Eisner, Jerome, B.S., *N. Y. City College*.....New York
Elias, Herman R., A.B., *N. Y. City College*.....New York
Elliott, Richard Aston.....New York
Elmore, Franklin, A.B., *Yale*.....New York
Falk, Harry Louis.....Alabama
Farley, Edward James, A.B., *Manhattan*.....New York
Finch, Edward R., A.B., *Yale*.....New Jersey
Fleming, Charles Lewis, Jr.....New York
Forsythe, Frederic Wellington, B.L., *Lincoln*.....Illinois
Foster, George Henry D., A.B., *Bowdoin*.....Maine
Gilbert, Frederic N.....New York
Goldberg, Bernard.....New York
Goldmark, Herbert, A.B., *Brooklyn Polytechnic*.....New York
Goodwin, Willard H., Ph.B., *University of Rochester*.....New Jersey
Greene, Ralph C.....New York
Hanauer, Sumner, *Gymnasium, Frankfurt a/M.*.....New York
Harris, Myron.....New Jersey
Hayes, Alfred, Jr., A.B., *Princeton*.....Pennsylvania
Heindel, Norman Swope.....Pennsylvania
Hill, George Place.....New York
Hooker, James Fisk, A.B., *Yale*.....Vermont
Hubby, Frank Winfield, Jr., A.B., *Yale*.....Ohio
Hulick, Francis Rader.....Pennsylvania
Johnson, Franklin, Jr., A.B., *University of Chicago*.....Illinois
Joseph, Charles.....New York
Kaps, John Daniel.....Ohio
Kelly, James Allison.....Tennessee

Kennedy, Gilbert Falconer, B.S., *Harvard*.....New York
Kirby, Gustavus Town, E.E., *Columbia*.....New York
Krafft, Herman Frederick, A.B., *Johns Hopkins*.....New York
Lehman, Irving, A.B., *Columbia*.....New York
Leonard, Charles Shaw, B.S., *Highland*.....Kansas
Leslie, Adolph Mitchell.....Russia
Livingston, Frederick Montgomery, A.B., *Columbia*.....New York
Longfellow, Arthur Henry, A.B., *Harvard*.....Massachusetts
Loughran, Thomas Vincent, A.B., *Manhattan*.....New York
McConn, Hugh James.....Iowa
McLaughlin, Leo Lawrence, A.B., *St. Francis Xavier*.....New York
May, Herbert Louis.....Pennsylvania
Minard, Hubert Chambers, A.B., *Syracuse University*.....New York
Morse, Roscius, Jr.....New York
Obermeier, Leonard J., A.B., *Columbia*.....New York
O'Donnell, William T., A.B., *Brown*.....Rhode Island
Opp, Arthur Wellington.....New York
Paddock, Porter, B.S., *Blackburn*.....Illinois
Parish, Edward Codman, A.B., *Columbia*.....New York
Parsons, William Usher, Ph.B., *Yale*.....New York
Pease, Henry Hollister, A.B., *Harvard*.....New York
Prendergast, James William, Jr., A.B., *Mt. St. Mary's, Md*.....New York
Ridgway, William Combs.....New Jersey
Ringert, William.....California
Roberts, Clifford Charles.....New York
Roelker, Alfred, Jr., A.B., *Amherst*.....New York
Rosenberg, James Naumburg, A.B., *Columbia*.....New York
Rowe, Allan C., A.B., *Columbia*.....New York
Rowe, John C., A.B., *Harvard*.....New York
Rubenstein, George.....New York
Sanford, Henry Gansevoort, A.B., *Williams*.....New York
Schafran, Leo, B.S., *N. Y. City College*.....New York
Singerman, Samuel Adams.....New York
Smith, John P., A.B., *N. Y. City College*.....New York
Sporborg, William Dick.....New York
Stern, Benjamin Horace, Ph.B., *N. Y. University*.....New York
Stone, Harlan Fiske, B.S., *Amherst*.....Massachusetts
Sturges, Ralph Alonzo, A.B., *Bates*.....Maine
Thompson, Jay Linton, A.B., *Harvard*.....New York
Walker, John Edwin.....Washington
Wendt, Charles Rudolph.....New York
Werdenschlag, Arthur, B.S., *N. Y. City College*.....New York
Wheeler, Shelton King, A.B., *Yale*.....Tennessee
Wigham, Reginald Effingham.....New York
Wing, Arthur K.....Pennsylvania
Wood, Jeremiah.....New York
Zillman, Christian, C. H., B.S., *University of Missouri*.....Missouri

Second Year Class..... 104

FIRST YEAR CLASS

Adams, Alva Blanchard, Ph.B., *Yale*.....Colorado
Arnold, Henry N., A.B., *Harvard*.....New York
Bacon, Ray, A.B., *University of Rochester*.....New Jersey
Barcus, James S.....New York
Barrett, Eugene Thompson, A.M., *South Kansas College*.....Kansas
Bauchle, George Young.....New York
Baxter, Wyllys Pomeroy.....New Jersey
Bayles, Edwin Atkinson, A.B., *Columbia*.....New Jersey
Beard, William Mossgrove, A.B., *Yale*.....New York
Becker, Louis, Ph.B., *N. Y. University*.....New York
Benedict, Elliot Stuart, A.B., *Harvard*.....New York
Benedict, James Doolittle.....Colorado
Bigham, Henry John.....New York
Boehm, George Nathan, Ph.B., *N. Y. University*.....New York
Bolte, Hermann Augustus.....New York
Bonynge, Paul, B.S., E.E., *Brooklyn Polytechnic*.....New York
Bowman, Dennis E., A.M., *Colby*.....Maine
Boyd, James Edward, Jr.....Nebraska
Bryson, Edwin R.....Oregon
Burkhalter, Robert Proseus.....Illinois
Burnett, Levi Herr, Ph.B., *Kenyon*.....Ohio
Carmalt, James Walton, A.B., *Hamilton*.....Pennsylvania
Carruthers, Louis John.....New York
Cauthers, James Britton, A.B., *Amherst*.....New York
Conville, John Joseph.....New York
Corbin, John.....New York
Costello, Richard R., A.B., *Manhattan*.....New York
Coudert, Charles du Pont, A.B., *Columbia*.....New York
Cowen, Thomas Bigelow, A.B., *Williams*.....New York
Crosby, Arthur Alexander, A.B., *Brooklyn Polytechnic*.....New York
Culbertson, Henry Coe, A.B., *University of Cincinnati*.....Ohio
Curtiss, Alfred Loomis, A.B., *Yale*.....New York
de Forest, Johnston, A.B. *Yale*.....New York
Deignan, James Herbert, A.B., *N. Y. City College*.....New York
Deming, Sylvester Chittenden, A.B., *Williams*.....Vermont
Dodge, Guy Phelps.....Connecticut
Du Vivier, Joseph Augustus.....New York
Eldridge, George Dyre, Jr., A.B., *Johns Hopkins*.....New York
Ellison, Mark Hugo.....New York
Ellison, Millard Henry, A.B., *N. Y. City College*.....New York
Falk, Albert.....New York
Farnsworth, Philo Taylor, Jr.....Utah
Fay, Charles Jarvis, A.B., *Yale*.....Connecticut
Fearing, Joseph Lea.....New York
Fine, Harry Nelaton, Ph.B., *Wabash*.....Indiana

Finney, Adelbert Howard, Ph.B., *University of Michigan*.....Ohio
Flanagan, Edward James.....New York
Fleischmann, Charles Russell, A.B., *Harvard*.....New York
Fleischmann, Ernest Henry.....New York
Foster, Jay Stanley.....New York
Fowler, Carl Hitchcock, A.B., B.S., *University of Minnesota*.....New York
Franc, James Joseph, Ph.B., *University of Michigan*.....Ohio
Friedmann, Jacob Lawrence..... New York
Frierson, James Nelson, B.L., *Hobart*.....South Carolina
Frost, Frederic Worthen, A.B., *Wesleyan, Conn*.....New York
Frost, Harry Raymond.....New York
Furman, Stuart Sydney, A.B., *Harvard*.....New York
Gennert, Henry .....New Jersey
Gennert, William Oscar, A.M., *Columbia*.....New Jersey
Gentzlinger, Charles Frederick.....New York
Gibson, Seth Ashley, A.B., *Brown*.....Rhode Island
Goldberg, Lawrence, B.S., *N. Y. City College*.....New York
Goodelman, Simon, B.S., *N. Y. University*.....New York
Gordon, William S., A.B., *Yale*.... .....Pennsylvania
Graham, Sharon.....New York
Gros, Frederic, B.S., *Hanover*.....Indiana
Gros, Harry Eugene, B.S., *Hanover*.....Indiana
Grosner, Benjamin Alexander.....New York
Hale, Frederick, A.B., *Harvard*.....Maine
Harden, Alfred Dearing, A.B., *Johns Hopkins*.....Georgia
Hargrave, George Edwin.....New York
Hart, Augustin Snow.....New York
Herman, Otto Charles..... Iowa
Hershfield, Henry Grale.....Montana
Heumann, George Michael.....New York
Hildreth, Loring Townsend, A.B., *Harvard*.....New York
Hodges, William Van Derveer.....Colorado
Hoeninghaus, Fritz Wilhelm, A.B., *Yale*.....New York
Hoke, Van Wyck.....North Carolina
Humphreys, May, A.B., *Yale*.....New York
Hunt, Frederic Lincoln, A.B., *N. Y. City College*.....New York
Inglis, Lester, B.S., *Rutgers*.....New Jersey
Iselin, John Henry, A.B., *Harvard*.....New York
Israel, Isidore.....New York
Jacobs, Ralph Ketchum.....New York
Jetzinger, David.....New York
Johnston, Henry Selden, A.B., *Yale*.....New York
Kerr, John Campbell, A.B., *Princeton*.....New Jersey
Killgore, Robert B.....New York
Kiralfy, Harry Bolossy.....New York
Kittle, George Edwin... .....New York
Knowles, Robert.....Ohio

Knox, Herbert Allen, A.B., *N. Y. City College*.....New York
Kready, Benjamin Franklin, A.B., *Franklin & Marshall*.....Pennsylvania
Lambrecht, Joseph William.....New York
Lampman, Leonard B., A.B., *Yale*.....New Jersey
Lawshe, Jay Earl, A.B., *Leland Stanford, Jr.*.....Washington
Lawson, James Lee, A.B., *Emory & Henry*, LL.B., *University of Virginia*, Virginia
Lee, James Thomas Aloysius, B.S., *N. Y. City College*.....New York
Leiter, Milton Myron, A.B., *Harvard*.....New York
Lese, Frederick, B.S., *N. Y. City College*.....New York
Lesser, Joseph Mapes.....New York
Lessig, William Brooke.....Pennsylvania
Lockhart, Leslie Scott.....New York
Lockwood, William Andrew, A.B., *Williams*.....Massachusetts
Long, Percy Carr.....New Jersey
Long, Theodore.....New York
Loomis, Andrew Gregg, A.B., *Bucknell*.....Pennsylvania
McGrann, Richard Philip.....Pennsylvania
McGuire, William Strong.....New York
McKee, Thomas Heron.....Montana
MacVicar, Dana Collins, A.B., *Washburn*.....Kansas
Mason, Herbert Clinton.....New York
Miller, Charles Wesley, A.B., *Leland Stanford, Jr.*.....Oklahoma Territory
Mills, Edward Kirkpatrick, A.B., *Princeton*.....New Jersey
More, Taylor.....New York
Morrow, Dwight Whitney, A.B., *Amherst*.....Pennsylvania
Murray, Hugh Charles, A.B., *N. Y. City College*.....New York
Murtha, Eugene Isherwood, A.B., *St. Francis Xavier*.....New York
Myers, Saul Sidney.....New York
Newgass, George Washington, A.B., *Harvard*.....New York
Nickerson, Henry Franklin.....Massachusetts
Palmer, Victor Edwin.....Wisconsin
Paret, Walter Palmer, A.B., *Yale*.....New York
Parmly, Frederic Edgar.....New York
Perry, Wesley Vick, A.B., *Princeton*, A.B., *Bethel*.....Kentucky
Phelan, John Joseph, A.B., *Manhattan*.....New York
Phelps, Edgar Morris.....New York
Phillips, Harold Meyer, B.S., *N. Y. City College*.....New York
Pittis, Bertram.....New Jersey
Planten, William Rutger John.....New York
Pollak, Francis D., A.B., *Harvard*.....New Jersey
Priddy, John Emerson, A.B., *Amherst*.....Ohio
Proskauer, Joseph Meyer, A.B., *Columbia*.....Alabama
Ramsay, Allen Lawson.....New Jersey
Reardon, Mark Sylvester.....New York
Redden, William Aloysius.....Connecticut
Reynolds, Jackson Eli, A.B., *Leland Stanford, Jr.*.....California

Riker, John Lawrence, 2d., A.B., *Harvard*.....New York
Rippe, Maurice Louis, B.S., *N. Y. City College*.....New York
Robbins, William Henry.....New York
Rosett, Louis Jerome, A.B., *N. Y. City College*.....New York
Ross, Nathan Olin.....Indiana
Rumsey, David.....New York
Ruppert, George E.....New York
Schleider, Moses Nachmin.....New York
Shattuck, Edwin Paul.....Oregon
Slocum, Charles Mills, A.B., *Williams*.....New York
Snyder, John Hebard, A.B., *Columbia*.....New Jersey
Solomon, Mortimer.....New York
Sommerich, Otto Charles, A.B., *N. Y. City College*.....New York
Soper, Emmet Harland, Ph.B., *Cornell, Ia.*.....Iowa
Soper, Erastus Burrows, Jr., A.B., *Cornell, Ia.*.....Iowa
Staab, Julius, A.B., *Swarthmore*.....New Mexico
Stein, Morton.....New York
Stern, Harry Levy, A.B., *Washington University*, A.M., *University of Chicago*, Missouri
Stewart, William James.....New York
Tarler, George Cornell, B.S., *N. Y. City College*.....New York
Taylor, Benjamin Irving.....New York
Tebbetts, Theodore Charles, A.B., *Harvard*.....Massachusetts
Tegen, Frederick Henry.....New Jersey
Thomas, Hiram.....Virginia
Thompson, Frederick Maurice, A.B., *Yale*.....Pennsylvania
Thorne, Victor Corse, Ph.B., *Yale*.....Connecticut
Tripp, Ross William.....New York
Tucker, Joseph Whittemore Sweet.....New York
Tyler, William Seymour, A.B., *Amherst*.....New Jersey
Vanderveer, George Francis, A.B., *Leland Stanford, Jr.*.....Iowa
Vogt, Carl Vernon.....New Jersey
Wagner, Oscar, B.S., *N. Y. City College*.....New York
Walker, Clarence Frederick.....New Jersey
Walker, Roberts, A.B., *Amherst*.....New York
Ward, Alan Haworth.....New York
Wheelock, Harvey Lincoln, A.B., *Harvard*.....Massachusetts
White, Andrew Joseph, Jr.....New York
White, Stewart Edward, Ph.B., *University of Michigan*.....Michigan
Whitehead, Will Carleton.....New Jersey
Wood, Levi Hollingsworth, A.B., *Haverford*.....New York
Wyckoff, Hubert Coke, Ph.B., *University of California*.....California
Ybor, Rafael Vincent Martinez, A.B., *University of Havana*.....New York

First Year Class.....180

SPECIAL STUDENTS

Keith, Harry Partridge.....New York
Schwarz, Irving E.....New Jersey
Stewart, Robert William.....New York
Special Students.....3

Seniors of the College..... 6
Students from the School of Political Science..... 1

SUMMARY

Third Year Class.....	67
Second Year Class.....	104
First Year Class.....	180
Special Students.....	3
Students primarily registered under this Faculty.....	354
Seniors of the College.....	6
Students from other Faculties of the University.....	1
Total.....	361

PARENTAGE OF COLLEGE DEGREES

Adelbert College.....	1
Amherst College.....	9
Bates College.....	1
Blackburn University.....	1
Bowdoin College.....	1
Brown University.....	2
Bucknell College.....	1
Christian Brothers College, St. Louis, Mo.....	1
Colby University.....	1
Columbia College.....	32
Cornell College, Ia.....	2
Emory & Henry College.....	1
Franklin & Marshall College.....	1
Gymnasium, Frankfurt a/M.....	1
Hamilton College.....	1
Hanover College, Ind.....	3
Harvard University.....	25
Haverford College.....	1
Highland University, Kans.....	1
Hobart College.....	1
Johns Hopkins University.....	4
Kenyon College.....	1
Leland Stanford, Jr., University.....	4
Lincoln University.....	1

McGill University, Canada	1
Manhattan College	4
Mount St. Mary's College, Md	1
New York City College	26
New York University	4
Polytechnic Institute, Brooklyn	4
Princeton University	5
Rutgers College	1
South Kansas College	1
St. Francis Xavier's College	2
St. John's College, Md	1
St. John's College, N. Y	1
Swarthmore College	1
Syracuse University	1
Trinity College, Conn	2
University of California	2
University of Chicago	1
University of Cincinnati	1
University of Havana	1
University of Kansas	1
University of Michigan	3
University of Minnesota	1
University of Missouri	1
University of Nebraska	1
University of Rochester	2
University of the South	1
University of Wisconsin	1
Wabash College	1
Washburn College	1
Washington University, St. Louis, Mo	1
Wesleyan University, Conn	1
Williams College	5
Yale University	32
57 Colleges and Universities. Total Graduates	209

SCHOOL OF MEDICINE

COLLEGE OF PHYSICIANS AND SURGEONS

The instruction in medicine is given under the following departments:

ANATOMY
CHEMISTRY AND PHYSICS
DISEASES OF CHILDREN
DERMATOLOGY
GENITO-URINARY AND VENEREAL DISEASES
GYNECOLOGY
LARYNGOLOGY
MATERIA MEDICA AND THERAPEUTICS
NEUROLOGY
OBSTETRICS
OPHTHALMOLOGY
OTOLOGY
PATHOLOGY
PHYSIOLOGY
PRACTICE OF MEDICINE
SURGERY

Officers of the Faculty

JAMES W. MCLANE, M.D. ..... *Dean and ex-officio Member of the University Council*
JOHN G. CURTIS, M.D. ..... *Elected Delegate to the University Council*
EDWIN B. CRAGIN, M.D. ..... *Secretary*

The Faculty

SETH LOW, LL.D., *President*

JAMES W. MCLANE, M.D., *Professor of Obstetrics*
CHARLES F. CHANDLER, Ph.D., *Professor of Chemistry and Medical Jurisprudence*
FRANCIS DELAFIELD, M.D., *Professor of the Practice of Medicine*
JOHN G. CURTIS, M.D., *Professor of Physiology*
GEORGE M. TUTTLE, M.D., *Professor of Gynecology*
GEORGE L. PEABODY, M.D., *Professor of Materia Medica and Therapeutics*
WILLIAM T. BULL, M.D., *Professor of Surgery*
M. ALLEN STARR, M.D., *Professor of Diseases of the Mind and Nervous System*
GEORGE S. HUNTINGTON, M.D., *Professor of Anatomy*
ROBERT F. WEIR, M.D., *Professor of Surgery*
T. MITCHELL PRUDDEN, M.D., *Professor of Pathology, Director of the Laboratories of Histology, Pathology, and Bacteriology*

NOTE.—For details as to other officers of instruction see departmental statements.

GENERAL STATEMENT

The College of Physicians and Surgeons, on July 1, 1891, became, under the authority of the Legislature, a part of Columbia University. This merger, which makes the medical department in a complete sense an integral part of the University system, largely increases the usefulness of the Medical School, favors the thoroughness of scientific medical education, and promotes scientific research. The accessions to the teaching force, notably in the Department of Anatomy and in the physiological, pathological, bacteriological, and chemical laboratories, permit the realization, to a degree previously quite impossible, of the great opportunities for instruction and research afforded by the excellence of the dissecting-rooms, the laboratories, and apparatus.

The college occupies a group of buildings, given by the late William H. Vanderbilt and members of his family, and by William D. Sloane, Esq., which stand upon thirty contiguous lots of land, bounded on the south, west, and north by Fifty-ninth Street, Tenth Avenue, and Sixtieth Street, respectively, and lying immediately opposite to the Roosevelt Hospital.

The station, which is a few steps from the college, at the corner of Fifty-ninth Street and Ninth Avenue, is the point of union of the Ninth Avenue and Sixth Avenue Elevated Railroads, by either of which the buildings are immediately accessible from the north and south.

The "across-town" surface cars of the Belt-line Surface Railway move east and west along Fifty-ninth Street, pass the site of the college, and place it in easy communication with the Second and Third Avenue Elevated roads, and with the numerous lines of surface-cars which reach Fifty-ninth Street from the north and south. All important points in the city, including the various hospitals, can thus readily be reached from the college without a walk of any length.

The buildings appertaining to the college are three in number:

THE COLLEGE BUILDING PROPER;
THE VANDERBILT CLINIC;
THE SLOANE MATERNITY HOSPITAL.

THE COLLEGE BUILDING PROPER has been designed to facilitate that combination of didactic instructions with laboratory work which is essential to a modern scientific training. It consists of a *southern portion*, measuring 140 feet by 43 feet, extending along Fifty-ninth Street; of a *northern portion*, 96 feet by 43 feet, extending along Sixtieth Street; and of a *middle portion*, 96 feet by 55 feet, connecting the other two. The total area covered is therefore 15,428 square feet. Each story above the basement of the northern and southern portion has been built "in the clear," and contains neither brick partitions nor iron columns. It is therefore possible to remodel the interior at any future time.

Through the recent generous gift of Messrs. Cornelius, William K., Frederick W., and George W. Vanderbilt, there has been rendered possible an important enlargement of the college building proper, to provide additional facilities for anatomical teaching and for practical work in Pathology and Bacteriology.

The south wing of the college has been extended on Fifty-ninth Street eastward for 55 feet, the depth of the new wing being 80 feet. This new building is four stories high and is devoted to the Department of Anatomy. The basement contains the cast and modelling rooms, the corrosion room, and the reference osteological collection. The first and second stories are occupied by the Museum of Human and Comparative Morphology, the first floor being provided with a gallery, greatly increasing the available floor space.

The Morphological Research Laboratory occupies the third story of the new anatomical building, affording ample accommodations for the researches of the officers of the department and for post-graduate students.

The fourth floor forms an extension to the present dissecting-room. The new class-room for practical anatomy will accommodate over four hundred students, and by means of the artificial cooling plant work can be carried on without regard to the outside temperature.

The north end of the fourth floor is occupied by a small auditorium for anatomical demonstrations. It has overhead light and an arrangement of seats carefully planned, so as to bring each member of the sections close to the object of the demonstration.

The two upper floors of the new building over the Vanderbilt Clinic extension are made continuous with the space now occupied by the Department of Pathology, and are devoted to the present work of this department in Pathology and Bacteriology, and to such an extension of these as the plans of the new four-years' course require. There is on the upper fifth floor a large laboratory for the new undergraduate course in Bacteriology of the second year, and a series of larger and smaller rooms for advanced students and research work in this theme. On the fourth floor there is a large laboratory for special advanced students in Pathology and for research, a series of private rooms for the instructors, and a library.

Vanderbilt Clinic

The new VANDERBILT CLINIC extends from the corner of Sixtieth Street and Tenth Avenue to the north wing of the college building, covering an area 180 by 60 feet, and is three stories in height. It is twice the size of the original building.

This institution was built and endowed by the sons of the late William H. Vanderbilt as a memorial of their father. It supplies a fully equipped dispensary service for the sick poor. It also affords ample material for extended practical clinical instruction in the various departments of medicine and surgery, as the professors, with their clinical assistants, have the entire charge of its practice.

During the year 1894, 136,859 patients were treated in the dispensary, of whom 41,871 were new patients. During the year 1895, 145,305 patients were treated, of whom 46,449 were new.

The original building having proved inadequate to accommodate these large numbers, the sons of Mr. Vanderbilt have recently (1895) united in an additional gift of $350,000, enabling the size of the building to be doubled. In the

enlarged building, ample space is provided not only for the reception of the constantly increasing number of patients, but also for the instruction of the students in small classes in each of the eleven different departments. Two large dark rooms with twenty stalls are provided for the instruction in the use of the ophthalmoscope and laryngoscope. Each department has a room for the practical instruction of small groups of students, in addition to the rooms devoted to the treatment of patients. There is a large theatre for the clinical lectures, accommodating about four hundred students, and a smaller lecture hall where one hundred can be seated.

All modern appliances for the treatment of diseases have been introduced, so that students can learn thoroughly the use of all methods in each department, and thus can acquire a practical knowledge of all the "specialties" in medicine.

Sloane Maternity Hospital

THE SLOANE MATERNITY HOSPITAL is upon the college land at the corner of Fifty-ninth Street and Tenth Avenue.

This is a lying-in hospital given by William D. Sloane, Esq., whose wife, a daughter of the late William H. Vanderbilt, has endowed the institution by making all of its beds free in perpetuity.

The obstetric service here is under the exclusive direction of the Professor of Midwifery at the college, the Instructor in obstetrics being the Resident Physician.

For further details and for practical instruction at this hospital, see "Obstetrics," page 112.

Through the further munificence of Mr. Sloane the present hospital has recently been greatly enlarged. The new building is situated upon Fifth-ninth Street, east of the original building and continuous with it. It is six stories high, and conforms to the old building in general architectural style. This will furnish seventy-two additional beds for patients and offer greater accommodation for the House Staff and for the nurses. In the new hospital there will be an operating room which will accommodate about fifty students. Mrs. Sloane has provided for the increased cost of maintenance of the hospital both during and after her lifetime.

CURRICULUM

The work required of the students at this college who are candidates for the degree of M.D. now covers four years of study according to the curriculum set forth below in outline.

This curriculum will be worked up in detail year by year, as the course progresses, the right being reserved to make amendments as experience may prove necessary.

Programmes of the exercises, giving time and place, will be distributed among the matriculants at the beginning of each annual session.

The following statement is drawn up from the point of view of the student, and shows what is expected of each matriculant taking the regular curriculum.

In all subjects which are not completed in a single year the instruction offered to a given student will be different each year.

Every student intending to be a candidate for the degree of M.D. must register his name in person within the first seven working days of each session.

Students of the first year in the four-years' course will not be excused from attendance on the regular examinations in Physics and Chemistry on account of work performed elsewhere.

First Year

PHYSICS AND CHEMISTRY, INCLUDING MEDICAL CHEMISTRY.

Lectures combined with demonstrations, 4 a week.

Conferences, 2 a week for one half the year.

* *Laboratory Work* in practical physics, 2-hour exercises once a week for one half the year.

Laboratory Work in practical medical chemistry, 2-hour exercises twice a week for one half the year.

ANATOMY, begun.

Demonstrations to sections, 4 a week for each student.

Laboratory Work in dissection, 18 to 20 hours a week, for from 3 to 5 periods of 4 weeks each.

NORMAL HISTOLOGY, begun.

Laboratory Work, 2-hour exercises 3 times a week for one half the year.

PHYSIOLOGY, begun.

Lectures combined with demonstrations, 3 a week.

Demonstrations to sections, from 1 to 3 a week for each student.

EXAMINATIONS upon the work of the first year.

Second Year

ANATOMY, finished.

Lectures combined with demonstrations, 3 a week.

Demonstrations to sections, 4 a week for each student for one half the year, 5 a week for each student for one half the year.

Laboratory Work in dissection, 10 to 12 hours a week for from 1 to 3 periods of 4 weeks each.

NORMAL HISTOLOGY, finished.

Laboratory Work, 2-hour exercises twice a week for one half the year.

PHYSIOLOGY, finished.

Lectures combined with demonstrations, 3 a week.

Demonstrations to sections from 1 to 3 a week for each student.

PATHOLOGICAL ANATOMY, begun; the technique of Autopsies.

Attendance at Autopsies, with practical instruction, once a week for 8 weeks.

* At the Columbia University Physical Laboratory, 49th Street and Madison Avenue.

Bacteriology.

Laboratory Work, 2-hour exercises 3 times a week for one fourth the year.

Materia Medica and Therapeutics, begun.

Lectures, 3 a week.

Toxicology.

Laboratory Work, 2-hour exercises once a week for one half the year.

Conferences, once a week for one half the year.

Obstetrics and Gynecology, begun.

Recitations combined with demonstrations to sections, 1 a week for each student.

Examinations upon the work of the second year.

Third Year

Materia Medica and Therapeutics, finished.

Lectures, 3 a week.

Pathological Anatomy, finished.

Demonstrations to sections, 2 a week for each student.

General Pathology and Pathological Histology.

Laboratory Work, 2-hour exercises 3 times a week for one half the year.

The Practice of Medicine, including the Diseases of the Mind and Nervous System, begun.

Lectures, 3 a week.

Clinical Lectures at the Vanderbilt Clinic, once a week.

Clinical Lectures or instruction in the wards at the Roosevelt Hospital, once a week; at the New York Hospital once a week for one half the year, twice a week for one half the year.

Practical Clinical Instruction to sections in physical diagnosis, for each student twice a week for 16 weeks.

The Principles and Practice of Surgery, begun.

Lectures, 3 a week.

Clinical Lectures at the Vanderbilt Clinic, once a week.

Clinical Lectures and the witnessing of operations at the New York or Roosevelt Hospital, once a week; at the New York Hospital (in addition to the above), once a week for one half the year; at the Presbyterian Hospital, once a week for one half the year.

Practical Clinical Instruction to sections, for each student twice a week for 16 weeks.

Optional—Clinical Lectures and the witnessing of operations at St. Luke's Hospital.

Obstetrics and Gynecology, continued.

Lectures, 3 a week.

Clinical Lectures in Gynecology at the Vanderbilt Clinic, 1 a week.

Clinical Lectures and the witnessing of operations in Gynecology at the Roosevelt Hospital, 6 exercises for each student.

Practical Clinical Instruction to sections in Gynecology, 6 exercises for each student.

Venereal and Genito-Urinary Diseases.

Clinical Lectures at the Vanderbilt Clinic, 1 a week.

Clinical Lectures, and the witnessing of genito-urinary operations at Bellevue Hospital, 1 a week for one half the year.

Practical Clinical Instruction to sections, 12 exercises for each student.

Optional—Clinics at the City Hospital, Blackwell's Island, 1 a week for two months.

Diseases of the Eye.

Clinical Lectures at the Vanderbilt Clinic, 1 a week.

Practical Instruction to sections in the use of the opthalmoscope and the functional examination of the eye, 12 exercises for each student.

Optional—Practical Clinical Instruction to sections at the New York Opthalmic and Aural Institute.

Diseases of the Ear.

Practical Clinical Instruction to sections, 6 exercises for each student.

Examinations upon the work of the third year.

Fourth Year.

The Practice of Medicine, including the Diseases of the Mind and Nervous System, finished.

Lectures 3 a week.

Clinical Lectures at the Vanderbilt Clinic, 2 a week.

Clinical Lectures or Instruction in the wards, at the Roosevelt Hospital once a week ; at the New York Hospital once a week for four months.

Practical Clinical Instruction to sections in the wards of the Roosevelt or Bellevue Hospital, for each student 2-hour exercises 3 times a week for 8 weeks.

Practical Clinical Instruction to sections in the diagnosis of diseases of the nervous system, 6 exercises for each student.

Optional—Clinical Instruction in Bellevue and Presbyterian Hospitals, once a week.

Clinical Microscopy.

Laboratory Work 2-hour exercises twice a week for 8 weeks.

The Principles and Practice of Surgery, finished.

Lectures 3 a week.

Clinical Lectures at the Vanderbilt Clinic, 1 a week.

Clinical Lectures and the witnessing of operations at the New York or Roosevelt Hospital, once a week for one half the year ; at Bellevue Hospital, once a week for one half the year ; at the Presbyterian Hospital, once a week for one half the year.

Surgical Demonstrations at the Roosevelt Hospital, once a week for one half the year.

Practical Clinical Instruction to sections in the wards of Bellevue Hospital, for each student 2-hour exercises twice a week for 8 weeks.

Operative Surgery on the Cadaver for sections, 12 lessons ; required or elective as may hereafter be determined.

Optional—Clinical Lectures and the witnessing of operations at the New York Hospital (additional to the above); at St. Luke's Hospital.

Orthopædic Surgery.
Clinical Lectures at the Vanderbilt Clinic, 1 a week.
Practical Clinical Instruction to sections, 12 exercises for each student.

Obstetrics and Gynecology, finished.
Attendance upon Confinements at the Sloane Maternity Hospital.
Practical Clinical Instruction in obstetrics to sections, at the Sloane Maternity Hospital, for each student, daily for one week.
Clinical Lectures in gynecology at the Vanderbilt Clinic, 1 a week.

Diseases of Children.
Clinical Lectures at the Vanderbilt Clinic, 1 a week.
Practical Clinical Instruction to sections, 12 lessons for each student.

Diseases of the Skin.
Clinical Lectures at the Vanderbilt Clinic, 1 a week.
Practical Clinical Instruction to sections, 12 lessons for each student.

Diseases of the Throat and Nose.
Clinical Lectures at the Vanderbilt Clinic, 1 a week.
Practical Clinical Instruction to sections, 12 lessons for each student.

Examinations upon the work of the fourth year, *including an elective course or courses ; see below.*

Elective Courses

Each student of the fourth year will be required, within such time as shall be prescribed after the beginning of the academic year, to elect from a list of elective courses either one course or more, as shall be determined hereafter ; such election to be final.

The course or courses thus elected, the student will be required to attend, and he will be required also to be examined thereon as a prerequisite for the dergee of M.D.

The elective courses will be numerous, and in various departments, both clinical and otherwise ; and the choice will not be confined to departments represented in the Faculty of Medicine, but will be extended to allied subjects.

In view of the wide range of choice thus to be provided for, no student will be admitted to any elective course unless his attainments shall be judged adequate by the head of the department in which the course is offered.

Elective courses will be organized, if possible, in the following themes or their subdivisions, and in such others as may be approved hereafter :

Surgical Diagnosis ;
Obstetrics ;
Diagnosis of Nervous Diseases ;
Localization of Nervous Diseases ;

Insanity (clinical course);
Opthalmology;
Venereal Diseases;
Therapeutics of Diseases of the Skin;
Contagious Diseases;
Microscopic Technology;
Pathological Anatomy and Histology of the Organs of Generation;
Pathological Anatomy and Histology of the Nervous System;
Cellular Biology;
Comparative Embryology;
Human and Comparative Morphology;
General Physiology;
Neuro-Muscular Physiology;
Physiological Technique;
Physiological and Experimental Psychology;
Philosophy;
Botany;
Chemistry;
Physics.

EXAMINATIONS AND STANDING

Each student will be examined, each year, upon the work of that year.

A second examination, for candidates found deficient at the close of the first, second or third year's work, will be held during the week before the opening of the following session.

STANDING AT THE END OF THE FIRST YEAR

The standing in the respective departments of a student at the end of his first year will be based upon the following tests to be applied by, or under the direction of, the Professor in charge of the department, unless otherwise expressly specified.

1. *Physiology*, by an examination in writing upon the lectures and demonstrations of the year.

2. *Anatomy*, by (*a*) a record of the student's practical work during the year; (*b*) a practical examination; (*c*) a brief examination in writing.

3. *Normal Histology*, as for Anatomy.

4. *Physics and Chemistry*, by (*a*) a record of the student's practical work during the year; (*b*) a practical examination in Physics; (*c*) a practical examination in Chemistry; (*d*) an examination, in writing, in Physics and Chemistry.

A bad record of practical work in a department may bar a student from examination; or a bad practical examination may bar him from an examination in writing; the result in either case being failure in the year's work in that department.

No student will be permitted to advance with his class from the first to the second year, unless his standing shall have been found satisfactory, before the beginning of the work of the second year, in three out of the four departments of (1) Physics and Chemistry; (2) Anatomy; (3) Normal Histology; (4) Physiology.

A student found deficient in one only of the four departments of the first year, may be permitted to advance with his class, on condition that he make good his first year's standing, in the department in which he shall have failed, before being admitted to any of the examinations upon the studies of the second year held at the end thereof.

STANDING AT THE END OF THE SECOND YEAR

The standing, in the respective departments, of a student at the end of his second year will be based upon the following tests, to be applied, by or under the direction of, the Professor in charge of the department unless otherwise expressly specified:

Anatomy.

(1) A record of practical work during the year.
(2) A practical examination in Anatomy.
(3) A written examination, of a length to be determined by the Professor, and to be judged directly by him.

Normal Histology.

(1) A record of practical work during the year.
(2) A practical examination in Normal Histology.
(3) A brief written examination, of a length to be determined by the Professor of Pathology.

Physiology.

A written examination, of a length to be determined by the Professor, and to be judged directly by him, upon the subjects covered by the lectures and demonstrations of the year.

Materia Medica and Therapeutics.

A written examination, of a length to be determined by the Professor, and to be judged directly by him, upon the subjects covered by the instruction of the year.

Toxicology.

(1) A record of practical work during the year.
(2) A practical examination in Toxicology.
(3) A brief written examination, of a length to be determined by the Professor of Chemistry.

Bacteriology.

(1) A record of practical work during the year.
(2) A practical examination in bacteriology.
(3) A brief written examination, of a character to be determined by the Professor of Pathology.

Pathological Anatomy.

Attendance at autopsies. No tests.

Obstetrics and Gynecology.

A written examination, of a length to be determined by the Professors, upon the subjects covered by the instruction of the year.

No student will be permitted to advance with his class from the second to the third year unless, A) his standing shall have been found satisfactory, before the beginning of the work of the third year, in *five* out of the *seven* studies of 1) Physiology, 2) Materia Medica and Therapeutics, 3) Obstetrics and Gynecology, 4) Anatomy, 5) Normal Histology, 6) Bacteriology, and 7) Toxicology; and unless, B) the five studies in which his standing shall have been found satisfactory, as above, include not less than three of the following four studies, viz: 1) Anatomy, 2) Normal Histology, 3) Bacteriology, and 4) Toxicology.

A student of the second year found deficient according to the terms of the above may be permitted to advance with his class, but must make good all deficiencies before entering upon the exercises of his fourth year.

The annual examinations will be held after the close of the second year's instruction; and further examinations, for candidates found deficient, will be held during the week before the opening of the following session.

A candidate for admission to advanced standing at the beginning of the third year may be so admitted either unconditionally or conditionally. In the latter case, his admission will be upon the same terms as govern students who have pursued at this college the curriculum of the second year.

STANDING AT THE END OF THE THIRD YEAR

The standing in the respective departments of a student at the end of his third year will be based upon the following tests to be applied by, or under the direction of, the Professor in charge of the department, unless otherwise expressly specified.

Materia Medica and Therapeutics.

A written examination, of a length to be determined by the Professor and to be judged directly by him, upon the subjects covered by the instruction of the year.

Pathological Anatomy.

Attendance at demonstrations. No tests.

Pathological Histology.

(1) A record of practical work during the year.
(2) A practical examination in Pathological Histology.
(3) A written examination of a length to be determined by the Professor of Pathology and to be judged directly by him.

The Practice of Medicine, including the Diseases of the Mind and Nervous System.

(1) A record of practical work during the year in Physical Diagnosis.
(2) A written examination of a length to be determined by the Professors, and to be judged directly by them, upon the subjects covered by the instruction of the year.

The Principles and Practice of Surgery.

(1) A record of practical work during the year in Clinical Surgery.
(2) A written examination of a length to be determined by the Professors, and to be judged directly by them, upon the subjects covered by the instruction of the year.

Obstetrics and Gynecology.

(1) A record of practical work during the year in Clinical Gynecology.
(2) A written examination upon the subjects covered by the instruction of the year, of a length to be determined by the Professors and to be judged directly by them.

Venereal Diseases.

(1) A record of practical work during the year.
(2) A written examination upon the subjects covered by the instruction of the year, to be conducted and judged by the Professor.

Diseases of the Eye.

(1) A record of practical work during the year.
(2) A written examination upon the subjects covered by the instruction of the year, to be conducted and judged by the Professor.

Diseases of the Ear.

(1) A record of practical work during the year.
(2) A written examination upon the subjects covered by the instruction of the year, to be conducted and judged by the Professor.

No student will be permitted to advance with his class from the third to the fourth year unless he presents satisfactory records of practical work in Pathological Histology, Physical Diagnosis, Clinical Surgery, Clinical Gynecology, Veneral Diseases, Diseases of the Eye, and Diseases of the Ear.

By a satisfactory record is meant a certificate of punctual attendance, unless prevented by illness or unavoidable causes, on the practical courses. These courses can only be taken during the third year, so that they cannot be made up at a later time.

In addition the student must pass satisfactory written examinations on Materia Medica and Therapeutics, Pathological Histology, Practice of Medicine, Surgery, Obstetrics and Gynecology, Venereal Diseases, Diseases of the Eye, and Diseases of the Ear.

A student found deficient in only two of the five departments of Materia Medica and Therapeutics, Pathological Histology, Practice of Medicine, Surgery, and Obstetrics and Gynecology : and in only two of the three departments of Venereal Diseases, Diseases of the Eye, and Diseases of the Ear, can advance with his class provided that he makes up the four subjects on which he is conditioned before October 10th of the fourth year.

ADMISSION TO ADVANCED STANDING

Admission may be granted to advanced standing at the beginning of the second or of the third year, but not of the fourth year without the special consent of the Faculty.

Every applicant for advanced standing will be required (1) to present satisfactory evidence of having attended, at a medical college of good standing, courses reasonably equivalent to those already attended by the class to which he seeks admission (see also "Requirements for graduation, page 211"); (2) to be examined for admission in all the subjects in which the said class shall have been examined already.

TEXT-BOOKS AND INSTRUMENTS

The following list comprises the text-books and instruments recommended. The text-books are *for reference only*, unless otherwise specified in the notices of the several departments.

For the convenience of those who wish to reckon up their expenses in advance, there are appended the lowest prices at which the books, in cloth bindings, can be purchased in New York. These prices are liable to fluctuations. As a rule, the latest editions only of text-books should be purchased:

Morris's Anatomy, $6; Quain's Anatomy, not completed; Gray's Anatomy, plain, $4.80; with colored plates, $5.60; Dexter's Anatomy of the Perinæum, $1.20; Foster's Physiology, author's edition, in one volume, $4.00; *or* American Text-Book of Physiology; Fownes' Chemistry, $2.20; *or* Newth's Inorganic Chemistry, $1.58; Ganot's Physics, $4; *or* Barker's Physics, $4.50; Pellew's Medical and Physiological Chemistry, $2; H. C. Wood's Therapeutics, $4.80; E. Curtis's General Medical Technology, 80 cents; Warren's Surgical Pathology, $6; Tillman's Principles of Surgery and Surgical Pathology, $5; Treves' Manual of Surgery, $4.80; American Text-Book of Surgery, $7; Playfair's Midwifery, $3.20; *or* Lusk's Midwifery, $4; American Text-Book of Gynecology, $6; Long's Syllabus of Gynecology, $1; Keating and Coe's Clinical Gynecology, $6; Duane's Medical Students' Dictionary, $3.40; Pepper's American Text-Book of Medicine, $10; Delafield and Prudden's Pathological Anatomy and Histology, $4.80; Piersol's Normal Histology, $2.80; Sternberg's Manual of Bacteriology, $8; Abbot's Principles of Bacteriology, $2; Jacobi's Therapeutics of Infancy and Childhood, $2.40; Jacobi's Intestinal Diseases of Infancy and Childhood, $1; Ashby and Wright on the Diseases of Children, $4; Taylor's Venereal Diseases, $4.40; Swansey's Diseases of the Eye, $2.40; Buck's Manual of Diseases of the Ear, $2; Crocker's Diseases of the Skin, $4; Kaposi's Diseases of the Skin; Jackson's Handbook of Skin Diseases, $2.20; Bosworth's Diseases of the Nose and Throat, $9.60; Gower's Diseases of the Nervous System, $7: Dana's Text-Book of Nervous Diseases, $2.60; Kirchoff's Handbook of Insanity, $2.20.

A "dissecting case" containing all the necessary instruments, can be bought for from $2.35 to $3.35.

CLINICS

The clinical courses offered for 1896–97 are all given under their appropriate headings in the foregoing pages, in connection with the didactic teaching.

It seems proper also to make the following connected statement of the opportunities for clinical studies in all branches which are available for matriculants of the College of Physicians and Surgeons.

When not otherwise specified, the exercise is a clinical lecture, clinical "section teaching" being noticed, in what follows, only in certain cases. For the courses in "section teaching" the reader is referred to the foregoing classified statements of instruction. At many clinics operations performed before the class are an important feature.

Clinics at the Vanderbilt Clinic

(See page 194.)

Eleven Clinics are given each week at the Vanderbilt Clinic, as follows:

SURGICAL—Professors BULL and WEIR; Mondays, 12 M.

ORTHOPÆDIC SURGERY—Professor GIBNEY; Fridays, 12 M.

DISEASES OF THE EAR—Professor BUCK; Wednesdays, 2 P.M.

DISEASES OF THROAT AND NASAL PASSAGES (with laryngoscopic and rhinoscopic demonstrations)—Professor LEFFERTS; Mondays, 2 P.M.

DISEASES OE THE SKIN—Professor FOX; Mondays, 3 P.M.

DISEASES OF THE EYE—Professor KNAPP; Tuesdays, 3 P.M.

DISEASES OF CHILDREN—Professor JACOBI; Wednesdays, 2.30 P.M.

VENEREAL AND GENITO-URINARY DISEASES—Professor TAYLOR; Thursdays, 2 P.M.

MEDICAL—Professor DELAFIELD; Thursdays, 3 P.M.

DISEASES OF THE MIND AND NERVOUS SYSTEM—Professor STARR; Fridays, 2 P.M.

GYNECOLOGICAL—Professor TUTTLE; Fridays, 3 P.M.

Hospital Clinics

See the several departments. For appointments to the house-staffs of the hospitals, see page 208.

Besides the Vanderbilt Clinic, the general and special hospitals of New York afford most important fields for clinical teaching. This college is strongly represented on the staffs of these institutions, and regular clinical instruction at hospitals is made a prominent feature of the curriculum. *Admission is free* to all matriculated students. At all the following hospitals instruction is given by officers of the college.

SLOANE MATERNITY HOSPITAL, corner of Fifty-ninth Street and Tenth Avenue. See page 195.

ROOSEVELT HOSPITAL—This has long been the seat of thorough clinical work, and has become of special importance in this respect from its position immediately opposite the new buildings of the College of Physicians and Sur-

geons upon Fifty-ninth Street, between Ninth and Tenth Avenues. Moreover, this hospital, a few years ago, received a bequest of several hundred thousand dollars for the erection and endowment of THE SYMS OPERATING THEATRE, which now offers unrivalled facilities for instruction in operative surgery.

THE MCLANE OPERATING THEATRE is used for operative gynecology by Professor Tuttle exclusively. See page 86.

The Roosevelt is a general hospital of one hundred and eighty beds, and it also possesses a flourishing out-patient department.

Public clinics are given here as follows, throughout the college session :

Medical—Mondays at 4 P.M., Professors DELAFIELD, DRAPER and PEABODY

Surgical—Saturdays at 2.30 P.M., Professor MCBURNEY

Gynecological—Tuesdays, Thursdays, and Saturdays, at 2.30 P.M., Professor TUTTLE

NEW YORK HOSPITAL, Fifteenth Street, between Fifth and Sixth Avenues—Reached from the Medical College by taking the Sixth Avenue Elevated Railroad at the corner of Ninth Avenue and Fifty-ninth Street, and leaving the cars at the corner of Fourteenth Street and Sixth Avenue ; or by the surface cars.

This is a general hospital of the highest class, of one hundred and fifty beds, with an out-patient department.

The public clinics are the :

Medical—Mondays at 2.30 P.M., from November to April ; Saturdays,at 9.30 A.M., from February to May ; Professor PEABODY

Surgical—Wednesdays, 2.30 P.M., October to February, Professor WEIR ; Saturdays, 2.30 P.M., Professors WEIR and BULL ; Thursdays at 3.30 P.M., February to June, Dr. HARTLEY

BELLEVUE HOSPITAL, Twenty-sixth Street and East River—Directly accessible from the college by the horse-cars of the Belt Line, which run from the door of the college to that of the hospital ; or, by leaving the horse-car at the corner of Fifty-ninth Street and Third Avenue, and taking the Third Avenue Elevated train to the corner of Third Avenue and Twenty-eighth Street.

This hospital has eight hundred beds and receives sixteen thousand patients annually, of whom one fourth are in the exclusive charge of officers of this college.

The service of the out-patient department also covers a great range of practice ; and two newly built operating theatres, a large and a smaller one, are in full use.

The following clinics are held here during the session :

Medical—Tuesdays, 2.30 P.M., Professor JACOBI, and Drs. JAMES and JACKSON

Surgical—Thursdays, 2.30 P.M., Drs. F. H. MARKOE and GALLAUDET

Diseases of Children—Tuesdays, 2.30 P.M., from April to June, Professor JACOBI

Venereal and Genito-Urinary—Tuesdays, 2 P.M., Professor TAYLOR

ST. LUKE'S HOSPITAL, Cathedral Heights, One Hundred and Thirteenth Street and Amsterdam Avenue.

Surgical—Dr. F. H. MARKOE gives a clinic to which students are admitted on Fridays at 2.30 P.M., from August to February.

PRESBYTERIAN HOSPITAL, Madison Avenue and Seventieth Street—Accessible from the Medical School by the Fifty-ninth Street horse-cars of the Belt Line to Madison Avenue, and by the cars on this avenue to Seventieth Street.

This is a large general hospital of three hundred and thirty beds. The following clinics will be held here throughout the session :

Surgical—Tuesdays, 2.30 P.M., Dr. MCCOSH

Medical—December, January, February, March, April, Tuesdays, 2.30 P.M., Professor KINNICUTT

CITY HOSPITAL (formerly CHARITY HOSPITAL), Blackwell's Island, East River—To reach this institution the steamer should be taken at the foot of East Fifty-second Street. This hospital offers a peculiarly rich field for the study of venereal and genito-urinary diseases, over two thousand such cases being received yearly. Dr. HAYDEN gives a clinic as follows :

Venereal and Genito-Urinary—Wednesdays, 2 P.M., from February 1st to April 1st.

WILLARD PARKER HOSPITAL, foot of East Sixteenth Street ; reached from the Medical School by the cars of the Belt Line : RIVERSIDE HOSPITAL, North Brother Island, East River ; reached by special boat from the foot of East One Hundred and Thirty-eighth Street.

These hospitals, in charge of the New York City Health Department, offer a rich field for the study of *Contagious Diseases* not admitted to other hospitals in the city, such as diphtheria, scarlet fever, small-pox, typhus fever, measles, and others. Dr. J. W. BRANNAN gives a clinic to which students are admitted in small sections after special registration, on Tuesdays and Saturdays, at 3 P.M., in November, December, March, and April.

NEW YORK CANCER HOSPITAL, One Hundred and Sixth Street and Eighth Avenue—Elevated Railroad Station, One Hundred and Fourth Street and Ninth Avenue. It can be reached also by the Eighth Avenue surface road.

One clinic a week is held here, viz. :

Gynecological—Tuesdays, 9 A.M. Dr. GEO. W. JARMAN

NEW YORK OPHTHALMIC AND AURAL INSTITUTE, 44 and 46 East Twelfth Street—Reached by the Sixth Avenue Elevated train, which should be left at the Fourteenth Street station ; or by the Ninth Avenue and Broadway Cable cars.

This hospital has forty beds, and a large daily dispensary service is held for diseases of the eye and ear. Throughout the session the following clinic is held :

Ophthalmological—(Admission by invitation of sections.) Selected cases for diagnosis and treatment ; the most important operations on the eye. Saturdays, 2.30 to 5 P.M. Professor KNAPP

DEMONSTRATIONS OF PATHOLOGICAL ANATOMY

Autopsies are made at the Roosevelt, New York, Bellevue, and City Hospitals during the session before the students, and usually at regular hours. The hospital pathologists demonstrate and explain the lesions discovered. Notices of autopsies are posted upon the bulletin-board of the college.

The hours for autopsies are as follows:

ROOSEVELT HOSPITAL—2 P.M., Dr. HODENPYL

NEW YORK HOSPITAL—2 P.M.

BELLEVUE HOSPITAL—1 P.M., Dr. ELY

CITY HOSPITAL—Thursdays and Saturdays. Dr. VAN GIESON, at hours announced upon the bulletin-board.

HOSPITAL APPOINTMENTS

By a resolution of the Commissioners of Public Charities, the Faculty of this college is entitled to nominate for appointment by the commissioners, after competitive examination in the college, its proportion of members of the house staff of Bellevue Hospital; such members to be attached to that division of the said hospital which has been assigned to the care of the college.

Four nominations, two medical and two surgical, are made each year by the college from among its graduates under the above resolution.

One medical and one surgical assistant go on duty upon July 1st; in the same way one medical and one surgical assistant upon January 1st.

The choice as to character of service, and the time of beginning the same, is given to the successful candidates in the order of their merit.

The surgical nominees all serve the hospital for six months in each of the four grades of ambulance surgeon, junior assistant, senior assistant, and house surgeon; each one having thus a total of two years' experience on the "House Staff."

The medical nominees serve each in the three grades of junior assistant, senior assistant, and house physician.

Similar positions are filled twice in each year, by public competitive examinations, open to graduates of this college, in the following institutions:

The "non-collegiate" division of Bellevue Hospital; the New York Hospital; the Roosevelt Hospital; St. Luke's Hospital; the City Hospital, Blackwell's Island; St. Vincent's Hospital; St. Francis' Hospital; the German Hospital; the Mount Sinai Hospital; the Presbyterian Hospital; the Woman's Hospital; the Brooklyn Hospital; St. Catherine's Hospital, Brooklyn; St. Peter's Hospital, Brooklyn; the King's County Hospital, Flatbush, L. I.

ALONZO CLARK SCHOLARSHIP

See page 33.

FELLOWSHIPS

For the University Fellowships, see page 26.
For the Alumni Association Fellowships, see page 32.

PRIZES

For the Harsen Prizes for clinical reports, see page 33.
For the Harsen Prizes for proficiency at examination, see page 33.
For the Alumni Association Prize, see page 33.
For the Cartwright Prize, see page 34.
For the Stevens Triennial Prize, see page 34.
For the Joseph Mather Smith Prize, see page 34.

EXPENSES

See page 25.

BOARD

Information in regard to board can be obtained from the secretary of the Students' Movement, through the Registrar, Mr. E. T. Boag, at his office in the college. Prices range from $5 to $9 per week.

CORRESPONDENCE

Letters requesting information should be addressed to Edwin B. Cragin, M.D., Secretary of the Faculty, 437 West Fifty-ninth Street, New York.

REQUIREMENTS FOR ADMISSION

1. Students desiring to do special work may matriculate at any time during the year as special students. Such applicants, however, cannot subsequently become candidates for graduation at this college without full compliance with the terms of admission and graduation as set forth in this catalogue.

2. No entrance examinations are conducted at this college, but all students who matriculate with the intention of becoming candidates for the degree of doctor of medicine must present a *medical student certificate from the Regents of the University of the State of New York*, obtained according to the law of which the following is an abstract.

FROM LAWS OF 1893, CH. 661, AS AMENDED IN 1895 AND 1896

"*To provide for the preliminary education of medical students:*

"The degree of bachelor or doctor of medicine shall not be conferred in this state before the candidate has filed with the institution conferring it the certificate of the regents that before beginning the first annual medical course counted toward the degree unless matriculated conditionally as hereinafter specified, he had either graduated from a registered college or satisfactorily completed a full course in a registered academy or high school; or had a preliminary education considered and accepted by the regents as fully equivalent; or held a regents' medical-student certificate, granted before this act took effect; or had passed regents examinations as hereinafter provided. A medical school may matriculate conditionally a student deficient in not more than one year's academic work or 12 counts of the preliminary education requirement, provided the name and deficiency of each student so matriculated be filed at the regents' office within three months after matriculation, and that the deficiency be made up before the student begins the second annual medical course counted toward the degree. Students who had matriculated in a New York medical school before June 5, 1890, and students who had matriculated in a New York medical school before May 13, 1895, as having entered before June 5, 1890, on the prescribed three years' study of medicine, shall be exempt from this preliminary education requirement.

A medical-student certificate may be earned without notice to the regents of the conditional matriculation either before the student begins the second annual medical course counted toward the degree or two years before the date of the degree for matriculants in any registered medical school, in the four cases following :

1. For matriculants prior to May 9, 1893, for any 20 counts, allowing 10 for the preliminaries, not including reading and writing ;

2. For matriculants prior to May 13, 1895, for arithmetic, elementary English, geography, spelling, United States history, English composition and physics, or any 50 counts, allowing 14 for the preliminaries ;

3. For matriculants prior to January 1, 1896, for any 12 academic counts.

4. For matriculants prior to January 1, 1897, for any 24 academic counts.

But all matriculants, after January 1, 1897, must secure 48 academic counts, or their full equivalent, before beginning the first annual medical course counted toward the degree, unless admitted conditionally, as hereinbefore specified, when the deficiency must be made up before the student begins the second annual medical course counted toward the degree.

This act shall take effect immediately, except that the increase in the required course of medical study from three to four years shall take effect January 1, 1898, and shall not apply to students who matriculated before that date and who received the degree of doctor of medicine before January 1, 1902.

NOTES ON THE LAW

1. The medical-student certificate must be earned before the candidate begins the first annual medical course counted toward the degree, except that a student may matriculate conditionally and make up a deficiency of not more than 12 academic counts before the beginning of the second annual medical course counted toward the degree. If granted on evidence of a satisfactory college or high school course or an equivalent, the work offered must have been completed before the candidate begins the second annual medical course counted toward the degree.

2. The regents will accept as fully equivalent to the required academic course any one of the following :

(*a*) A certificate of having successfully completed at least one full year's course of study in the collegiate department of any college or university, registered by the regents as maintaining a satisfactory standard.

(*b*) A certificate of having passed in a registered institution examinations equivalent to the full collegiate course of the freshman year or to a completed academic course.

Three full academic years of satisfactory work may be accepted as a full high-school course till August 1, 1896, when four full academic years will be required.

(*c*) Regents passcards for any 48 academic counts or any regents diploma.

(*d*) A certificate of graduation from any registered gymnasium in Germany, Austria, or Russia.

(*e*) A certificate of the successful completion of a course of five years in a registered Italian *ginnasio* and three years in a *liceo*.

(*f*) The bachelor's degree in arts or science, or substantial equivalents from any registered institution in France or Spain.

(*g*) Any credential from a registered institution or from the government in any state or country which represents the completion of a course of study equivalent to graduation from a registered New York high school or academy or from a registered Prussian gymnasium.

NOTES ON THE RULES OF THE UNIVERSITY EXAMINATION DEPARTMENT

Order of Studies.—There is no restriction in the order in which studies may be taken. Advanced students who have come from other States, or who, for other reasons, have not passed in elementary subjects, may take them at any time: *e. g.* arithmetic after algebra or geometry; English composition after rhetoric, etc.

Time limit.—There is no limit of time, but all credentials issued by the University are good till cancelled for cause. Studies necessary to obtain any credential may be passed at different examinations.

75 per cent. of correct answers is required in all subjects.

Answer papers will be reviewed in the regents' office, and all papers below standard will be returned to the candidates. For those accepted, passcards will be issued.

Candidates not attending schools in which regents' examinations are held should send notice at least ten days in advance, stating at what time and in what studies they wish to be examined, that required desk room may be provided at the most convenient place.

Candidates who fail to send this notice can be admitted only so far as there are unoccupied seats.

Certificates without examinations.—Candidates having credentials which can be accepted in place of examinations, should send them to the examination department. They will be returned as soon as verified, and if accepted the proper certificate will be sent with them.

Sample papers.—Calls for sample examination papers grew so burdensome that further free distribution became impracticable. All the papers for the year are mailed in paper covers for 25 cents, or bound for 50 cents. Unbound sample papers not including more than ten subjects may be had for 10 cents.

Address all communications to *Examination Department, University of the State of New York, Albany, N. Y.*

REQUIREMENTS FOR GRADUATION

Every candidate in the four-years' course will be required, before admission to the degree of M.D.:

1. To present satisfactory evidence, as required by law, of good moral character, and of having attained the age of twenty-one years.

2. To present evidence of having complied with the requirements for admission.

3. To have attained to satisfactory standing in the required studies of the four years of the curriculum, including the elective course or courses chosen for the fourth year.

4. A candidate who shall have been admitted to advanced standing will be required to have spent not less than four academic years at the studies referred to in the clause next preceding; and to have complied successfully with the requirements for admission to advanced standing set forth on page 204.

No two academic years which shall have begun during the same calendar year will be held to satisfy the requirements of the above clause.

THE DEGREE OF MASTER OF ARTS

The degree of Master of Arts may be conferred upon students holding college degrees, who shall have completed with distinction the entire course of the School of Medicine, provided that in each case the candidate present a satisfactory dissertation, and that at least a part of the extra work required of him for the degree of Master of Arts be taken under the direction of the Faculty of Philosophy, Political Science, or Pure Science, to the extent of one minor course, for not less than one year.

REQUIREMENTS FOR LICENSE TO PRACTICE MEDICINE IN NEW YORK STATE.

All requirements for admission should be completed at least one week before examinations.—They are as follows:

1. Evidence that applicant is more than 21 years of age (Form 1).

2. Certificate of moral character from not less than two physicians in good standing (Form 2.)

3. Evidence that applicant has the general education required, preliminary to receiving the degree of bachelor or doctor of medicine in this state (Medical-student certificate. See examination handbook).

4. Evidence that applicant has studied medicine not less than four full school years of at least nine months each, in four different calendar years in a medical school registered as maintaining at the time a satisfactory standard. New York medical schools and New York medical students shall not be discriminated against by the registration of any medical school out of the state, whose minimum graduation standard is less than that fixed by statute for New York medical schools.

The increase in the required course of medical study from three to four years does not take effect till January 1, 1898, and does not apply to students who matriculated before that date and received the degree of M.D. before January 1, 1902 (Form 1.)

First exemption: "The regents may in their discretion accept as the equivalent for any part of the third and fourth requirement, evidence of five or more years' reputable practice of medicine, provided that such substitution be specified in the license."

5. Evidence that applicant "has received the degree of bachelor or doctor of medicine from some registered medical school, or a diploma or license conferring full right to practice medicine in some foreign country" (Form 3 or original credentials).

6. The candidate must pass examinations in anatomy, physiology and hygiene, chemistry, surgery, obstetrics, pathology and diagnosis, therapeutics, practice and materia medica. The questions "shall be the same for all candidates, except that in therapeutics, practice, and materia medica all the questions submitted to any candidate shall be chosen from those prepared by the board selected by that candidate and shall be in harmony with the tenets of that school as determined by its state board of medical examiners."

Second exemption: "Applicants examined and licensed by other state examining boards registered by the regents as maintaining standards not lower than those provided by this article, and applicants who matriculated in a New York state medical school before June 5, 1890, and who received the degree M.D. from a registered medical school before August 1, 1895, may without further examination, on payment of $10 to the regents and on submitting such evidence as they may require, receive from them an indorsement of their licenses or diplomas, conferring all rights and privileges of a regents' license issued after examination."

7. A fee of $25 payable in advance.

Medical Examinations

Examinations for license to practice medicine in this state will be held as follows:

DATES.	PLACES.
1897.	
Jan. 26–29	New York.
April 6–9	Albany.
May 18–21	Syracuse.
June 15–18	Buffalo.
	Each candidate is notified as to exact place.

Address all communications concerning license examinations to Examination Department, University of the State of New York, Albany, N. Y.

REGISTER OF STUDENTS

(For home and city address in full see Directory of Students.)

THIRD YEAR CLASS

Aquaro, John.....New York
Arbuthnot, Thomas Shaw, A.B., *Yale*.....Pennsylvania
Barshell, Samuel.....New York
Benjamin, Max.....New York
Bero, Edward John.....New York
Blackmar, John Stanton.....Connecticut
Blake, James Eddy, B.S., *N. Y. University*.....New York
Briody, James Francis.....New Jersey
Brown, Edward Manning, Ph.B., *Yale*.....Massachusetts
Buckley, Charles Frederick, A.B., *Columbia*.....New York
Burgess, Maynard Gooding.....Cuba
Burton, Oscar Augustus.....Minnesota
Busby, Archibald Henry.....New York
Calhoun, William Caldwell.....New York
Campbell, Clarence Wellington.....New York
Carleton, Spencer, A.B., *Columbia*.....New York
Clark, James Bayard.....New Jersey
Clarke, Arthur Vernon.....Canada
Clarke, Henry Elisha.....New York
Cohen, Martin.....New York
Cole, Lewis Gregory.....New York
Collins, John James, A.B., *Holy Cross*.....Massachusetts
Conover, John Hamilton Potter, A.B., *Columbia*.....New York
Cory, Horace Cortelyou.....New Jersey
Cotter, John James.....Massachusetts
Cox, Rowland, Jr.....New York
Dayton, Hughes, Ph.B., *Yale*.....New York
Dorman, Franklin Abbott, A.B., *Harvard*.....New Jersey
Doughty, Isaac Linton, Jr.....New York
Douglas, John, B.S., *N. Y. City College*.....New York
Durning, Charles Francis, A.B., *Holy Cross*.....Massachusetts
Dyer, Joseph Osterman, Ph.B., *Yale*, LL.B., *Tulane University*...New York

Earl, William Petry.....New York
Edgerton, Francis Cruger, B.S., *Trinity*.....Connecticut
Eising, Eugene Harold, B.S., *N. Y. City College*.....New York
Ellis, Herbert Henry.....New York
Fitzgerald, Charles Francis, A.B., *Holy Cross*.....Massachusetts
Fogarty, Joseph Norman.....Florida
Fox, George Howard, A.B., *Yale*.....New York
Frankle, Benjamin Butler.....Colorado
Franklin, Charles Moore, A.B., *University of Alabama*.....Alabama
Furman, Reginald, A.B., *Harvard*.....New York
Gardner, Arthur Henry.....Massachusetts
Goodfriend, Henry.....New York
Goodridge, Malcolm, A.B., *Princeton*.....New York
Graeser, Herman Rudolph Alexander, Ph.G., *College of Pharmacy*.New York
Green, Nathan Williams, A.B., *Yale*.....New York
Gross, Moritz.....Massachusetts
Haas, Leopold Frederick William, B.S., *N. Y. City College*.....New York
Hatton, Henry Clinton.....New York
Haviland, Reed Ferris.....New York
Held, Ruben Johnson.....New York
Herrick, William Post, A.M., *Princeton*.....New York
Hewlett, Harold Edmonds, Ph.B., *Yale*.....New York
Hinsdale, Roy Seymour, A.B., *Amherst*.....New York
Hubbard, Ernest Valentine, A.B., *Columbia*.....New York
Hunt, Charles Frederick.....New York
Ivie, Charles William, A.M., *Columbia*.....New York
Jackson, Elias Simeon.....New York
Janeway, Henry Harrington, A.B., *Rutgers*..... New Jersey
Jenks, Ernest Potter, A.B., *Brown*.....New York
Johnson, Edward West.....New Hampshire
Judkowitz, Herman.....New York
Kellogg, Kenneth Evernghim.....Connecticut
Kelly, Henry Thomas.....New York
Kenyon, James Henry, B.S., *Princeton*.....New York
Keppler, Carl Richard.....New Jersey
Kessler, Eugene George, Ph.G., *College of Pharmacy*.....New York
Kline, Walter Leo, A.B., *Otterbein*.....Ohio
Klotz, Walter Carl.....New York
Kopetzky, Samuel Joseph.....New York
Kreuder, Henry, Ph.G., *College of Pharmacy*.....New York
Lange, Christian Christoph Andreas.....New York
Layman, Daniel Wunderlich, B.S., *Butler*.....Indiana
Lederman, Emanuel David.....New York
Lee, Burton James, Ph.B., *Yale*.....New York
Lee, Harry Mower.....New York
Lee, Henry Thomas, Jr.....Minnesota
Leshure, John.....Massachusetts

Lindheim, George Washington.....New York
Logan, John Othello.....New York
Long, William Henry, Jr.....New Jersey
Love, Lionel Hartsfield.....North Carolina
Low, Joseph Thompkins, Jr., B.S., *Princeton*.....New York
Lyon, Palmer Heath.....New York
MacGruer, Henry Alexander.....New York
Macklin, Walter Fullarton.....New York
Maguire, Edward O'Reilly.....Connecticut
McCarthy, Edward John.....Connecticut
McCloughan, Harvey.....New Jersey
McLeod, Harlow Comstock.....New York
McWhorter, John English.....New York
Merrell, Howard Valentine.....New Jersey
Meyer, Leo Bernard, A.B., *N. Y. City College*.....New York
Michaelis, Alfred, A.B., *N. Y. City College*.....New York
Miller, Albert Hersey, A.B., *Bates*.....Maine
Miller, Guy Bryan, A.B., *Yale*.....New York
Mittendorf, William Elphinstone Keith.....New York
Morgan, Browne.....New Jersey
Moseley, Henry Perkins, A.B., *Yale*.....New York
Muller, Emil Alfred.....New York
Nettleton, Irving La Field.....Connecticut
Nolte, Henry Clarence.....Wisconsin
O'Connell, Joseph Henry, A.B., *Holy Cross*.....Massachusetts
Pedersen, Victor Cox, A.B.; A.M., *Trinity*.....New York
Pelton, Henry Hubbard, A.B.; A.M., *Trinity*.....Connecticut
Pendleton, Judson Philbrook.....Maine
Probasco, Edgar Burton.....New York
Probasco, Norman Hayes.....New Jersey
Pyle, Immanuel.....New Jersey
Roberts, Dudley de Vore.....New Jersey
Robinson, Joseph, Jr.....Connecticut
Roff, Augustine Ward.....New Jersey
Rosenberg, Edward Aaron.....New York
Ruhl, Henry Clay, A.B., *N. Y. City College*.....New York
Rundquist, Emil Albin, B.S., *N. Y. City College*.....New York
Sabel, Stanley Owen.....Kentucky
Sabine, Philip Schieffelin, A.B., *Princeton*.....New York
Satterlee, George Reese, A.B., *Columbia*.....New York
Saxe, George Alexander.....New York
Schwarz, Herman.....New York
Shields, John Aloysius.....New York
Sicard, Montgomey Hunt, B.S., *Princeton*.....New York
Smith, Letchworth, A.B., *Yale*.....New York
Solley, John Beach, Jr., A.B., *Yale*.....New York
Stagg, Frank Munson.....New Jersey

Stock, Henry, B.S., *N. Y. City College*.....New York
Strauss, Israel, A.B., *Brown*.....New York
Swanick, James Robert.....New York
Sweeney, Richard Edward.....New York
Tannenbaum, Samuel Aaron.....New York
Taylor, John Mortimer, A.B., *Univ. of Rochester*.....New York
Thorner, Moses.....New York
Tousey, Ralph, A.B., *Yale*.....New York
Turner, Leslie Allin.....New York
Turnure, Percy Rivington, A.B., *Harvard*.....New York
Van Patten, Philip Schuyler.....New York
Vibbert, William Welsh, A.B., *Trinity*.....New York
Wallace, Charlton, A.B., *Kentucky*.....Kentucky
Waterhouse, Ernest Coniston, A.B., *Princeton*.....Hawaii
Waugh, Justin Miner, Jr., Ph.B., *Oberlin*.....New York
Wettengel, Walter.....New York
Wheeler, David Everett, A.B., *Columbia*.....New York
Williams, Charles Mallory, A.B., *Brooklyn Polytechnic;* Ph.B., *Yale* New York
Williamson, Henry Christie.....New York
Wolbarst, Abraham Leo.....New York
Woolsey, William Cavan.....New Jersey
Wurthman, John Henry, Ph.G., *College of Pharmacy*.....New York
Young, Roy Demas, Phar. M., *University of Michigan;* B. S., *Harvard* New York

Third Year Class.....149

SECOND YEAR CLASS

Abbe, Truman, A.B., *Harvard*.....New York
Addcms, Louis Paddock.....New York
Addy, Arthur Rockwell, A.B., *Marietta*.....New York
Adler, Maximilian Louis, B.S., *N. Y. City College*.....New York
Allée, William Hanford, Jr.....New York
Antony, Charles Leonard.....New York
Appel, Hermann Nehemiah.....New York
Armstrong, William Buckingham.....Georgia
Aronson, Edward Aaron.....New York
Bailey, Theodorus, B.S., *Princeton*.....New York
Baird, Addison Waddell.....New York
Banks, Wesley Tarver, A.B., *Emory*.....Alabama
Barclay, Harold.....New York
Barnes, George Edward, A.B., *Cornell*.....New York
Barnett, Edward Leroy, B.S., *St. Lawrence*.....New York
Barry, Thomas Joseph.....New York
Bastedo, Walter Arthur, Ph.G., *College of Pharmacy*.....New York
Beer, Edwin, A.B., *Columbia*.....New York

Bennett, Reginald Sidney.....New Jersey
Berry, Leonard Cassell.....Kentucky
Birckhead, James, A.B., *Trinity*.....New York
Bleick, Theodore Edward.....New Jersey
Bodkin, Dominic George.....New York
Borden, Matthew Sterling, A.B., *Yale*.....New York
Boyd, August Samuel.....New York
Bradner, Frederick Clark, A.B., *Princeton*.....New York
Brady, Frederick Luther.....New York
Brandies, Julian Walter, B.S., *N. Y. City College*.....New York
Bryan, Robert Coalter.....Virginia
Bullwinkle, Franklin.....New York
Campbell, Horace.....California
Carhart, George Arthur, B.S., *Univ. of Wisconsin*.....Wisconsin
Cherry, William Samuel, A.B., *Columbia*.....New York
Chivers, Edgar Eynon.....New York
Clark, Abram Schuyler, B.S., *Rutgers*.....New Jersey
Clarke, William Cogswell.....New Jersey
Crawford, William Barren.....Georgia
Cummings, John Joseph.....Massachusetts
Davidson, John Mac Bain.....New York
Davis, Fellowes, Jr.....New York
Dillingberg, Joseph Solomon, B.S., *N. Y. City College*.....New York
Donovan, Patrick George.....New York
Downs, Augustus Sherman.....New York
Dryfoos, Arthur David, A.B., *N. Y. City College*.....New York
Eakins, Olin Martin.....New Jersey
Emerson, Haven, A.B., *Harvard*.....New York
Fitch, Charles Wilmer, A.B., *Williams*.....New York
Floyd, Rolfe, A.B., *Harvard*.....New York
Foote, Sherman Knevals, A.B., *Yale*.....New York
George, Frederick Siebert.....New York
Getman, John Edgar.....New York
Geyer, Harold Carl, A.B., *Columbia*.....New York
Gilmour, Andrew James, Ph.B., *Yale*.....New York
Gould, Everett Willoughby, A.B., *Columbia*.....New York
Gray, Alfred William, A.B., *Univ. of Wisconsin*.....Wisconsin
Gross, John Conrad.....New York
Hailey, Walter Penrhyn.....Indian Territory
Hall, Myron Foster.....New York
Hanan, James Taylor.....New York
Holden, Edgar, Jr., A.B., *Princeton*.....New Jersey
Honnet, Joseph Harry.....North Carolina
Howarth, Edgar John.....New York
Howe, Henry Newell.....Massachusetts
Hughes, Frederick John.....New Jersey
Hughes, John Lawrence.....New York

Humpstone, Oliver Paul.....New York
Hyams, Benno.....New York
Ingling, Harry Warrington.....New Jersey
Jackson, Joseph Morris.....Pennsylvania
Jackson, Reginald Henry.....Wisconsin
Jacobs, William Ketchum.....New York
Jennings, John Edward.....New York
Jones, John Morgan.....New Jersey
Kane, Charles Joseph, A.B., *Fordham*.....New Jersey
Keschner, Moses.....New York
Knight, Frank Henry.....New York
Kosmak, George William, A.B., *Columbia*.....New York
Kurrus, John.....New Jersey
Lawrence, William Henry, Jr.....New Jersey
Lesser, Mozart Monae.....New York
Line, Arthur Maxwell, A.B., *Harvard*.....New York
Livengood, Horace Rutherford.....New Jersey
Lloyd, William Henry.....New York
Loughran, Robert Livingston, A.B., *Princeton*.....New York
Lowenstein, Victor.....New York
Lyman, Henry Stoddard, A.B., *Yale*.....Nebraska
Lynn, Charles Willard.....New York
Mac Alister, William Wallace.....New Jersey
McCafferty, John Aloysius, A.B., *Manhattan*.....New York
McCastline, Robert.....New York
McDonald, William, Jr., B.P., *Brown*.....New York
McKee, Fred Lyman.....New York
Mendel, Edwin Marcus, A.B., *Harvard*.....New York
Miller, Edward Ira.....New Jersey
Miller, James Alaxander, A.B., *Princeton*.....New Jersey
Mitchell, Edward Elbert, A.B., *Columbia*.....New York
Moss, L. Howard.....Canada
Myrick, Frank Worman.....New York
Neresheimer, Frederick Emil.....New York
Nesbitt, Robert Henry.....West Virginia
Noble, Robert Ernest, M.S., *Alabama Polytechnic Inst*.....Alabama
O'Brien, Francis Jeremiah, A.B., *Univ. of Toronto*.....New York
O'Connor, Charles George, A.B., *Manhattan*.....New York
O'Connor, James Henry, A.B., *Holy Cross*.....Massachusetts
Ogilvie, James, A.B., *Williams*.....Massachusetts
Osgood, Alfred Townsend, A.B., *Yale*.....New York
Payne, William Anderson.....Virginia
Pierson, Frederick Harrison, Jr., B.S., *Rutgers*.....New Jersey
Pollard, Charles Whitney, A.B., *Dartmouth*.....New York
Pool, Eugene Hillhouse, A.B., *Harvard*.....New York
Potter, Palmer Augustus, B.S., *Amherst*.....New York
Pulsifer, Tappan Chase, A.B., *Bates*.....Maine

Rambaud, George Gibier.....New York
Roemer, William Benjamin.....New York
Rosenberg, Maurice.....New York
Rosenwasser, Charles Adolph.....New Jersey
Russell, Tracy George, A.B., *Leland Stanford*.....California
Rutz, Anthony Alexander, A.B., *St. Francis Xavier*.....New York
Ryder, George Hope, A.B., *Yale*.....New Jersey
Salant, William, B.S., *Cornell*.....New York
Schnecker, William Augustus Muhlenberg.....New York
Scofield, Charles Edward.....New York
Severino, Joseph Minnelli.....New York
Shipley, Alfred Edward.....New York
Shirriffs, Russell Aber.....New Jersey
Shrier, Albert Franklin.....New York
Simon, Theodore William.....New York
Simons, Edward Henry Harriman.....New York
Sloan, Thomas George.....Connecticut
Smith, John Archibald.....New York
Spencer, Frederick Hallett.....New York
Squire, Amos Osborne.....New York
Stark, Meyer Maurice, A.B., *N. Y. City College*.....New York
Stern, Abram Richard.....New York
Stevenson, Robert.....New York
Stone, Squire Wilbert.....New York
Streeter, George Linius, A.B., *Union*.....New York
Sutton, Edward Forrester Holden, A.B., *Princeton*.....New York
Tierney, Myles Joseph, A.B., *Georgetown*.....New York
Tompkins, Frank Edward.....New York
Ullman, Albert Eckhardt.....New York
Virgin, Frederic Oakman, A.B., *Columbia*.....New York
Wadhams, Raymond Lynde, A.B., *Princeton*.....Pennsylvania
Waechter, Adolph Louis.....New York
Wainwright, Jonathan Mayhew, A.B., *Trinity*.....Connecticut
Wakefield, Fred Symonds, A.B., *Bates*.....Maine
Warren, George Linden.....New Jersey
Waterman, William Whitney.....New York
Watson, Oscar, A.B., A.M., *Univ. of New Brunswick*.....New York
Wheeler, Richard Kimble, A.B., *Univ. of Rochester*.....New York
Whitacre, Marion, B.Sc., *Ohio State*.....Ohio
Willets, Walter Roland.....New York
Williams, Linsly Rudd, A.B., *Princeton*.....New York
Wilson, Claude Lucas, A.B., *Wesleyan*.....Connecticut
Wood, Alfred Charles, A.B., *St. Francis Xavier*.....New York
Zabriskie, Francis Nicoll, A.B., *Princeton*.....New York

Second Year Class.....156

FIRST YEAR CLASS

Abbott, Theodore Jacob, A.B., *Harvard*.....New York
Adams, Charles Baker, A.B., *Amherst*.....Massachusetts
Adler, Marian Samuel.....New York
Agatstein, Sigmund.....New York
Alexander, David Esterbrook.....New York
Allen, William Thomas.....New York
Alsberg, Carl Lucas, A.B., *Columbia*.....New York
Baker, John Lockwood.....New York
Ballin, Milton, Ph.B., *Yale*.....New York
Bamberger, Raymond Sidney, A.B., *Louisville High School*.....Kentucky
Banta, Edward Woodruff.....New York
Barton, Francis William, B.S., *Notre Dame*.....Illinois
Bayles, Howard.....New York
Bebee, Edwin Lorendus, A.B., *Amherst*.....New York
Becker, Randolph Milton.....New York
Belcher, Herbert James Blauvelt.....New Jersey
Bernstein, Eugene Paul.....New York
Bieber, Joseph.....New York
Bingham, Arthur Walter, A.B., *Yale*.....Vermont
Black, John Fielding James.....Ireland
Blass, Barney.....New York
Blumenthal, Jules Leon.....New York
Boyd, Edward Armstrong.....New York
Breckwedel, Harry Benjamin.....New York
Brill, Abraham.....New York
Brinsmade, Daniel Bradley, A.B., *Yale*.....Connecticut
Brooke, William Wallace.....New Jersey
Brophy, William Augustine.....New York
Brown, Thomas Evans Westman.....North Carolina
Brown, Valentine Joseph.....New York
Bryant, Robert Rindell.....New Jersey
Burdette, William Day.....New Jersey
Byington, Roderick, Jr., B.S., *Princeton*.....New York
Cassebeer, Henry Arthur, A.B., *Harvard*.....New York
Celler, Herbert Louis, A.B., *Columbia*.....New York
Charlton, Herbert Richard.....New York
Child, Howard Proctor.....New York
Cimiotti, Walter Frank.....New York
Cochran, Guy Hunt, A.B., *Leland Stanford*.....California
Cochrane, Frank Lawrence.....New York
Coleman, Daniel Ephran Sickles, Ph.B., *St. Francis Xavier*.....New York
Connell, Edward Joseph, Jr., A.B., *Manhattan*.....New York
Connolly, Francis Edward.....New York
Cooper, Lane, A.B., *Rutgers*.....New Jersey
Crampton, Charles Ward.....New York

Crane, Claude Granville.....New York
Creeden, Edward Lawrence, A.B., *St. Francis Xavier*.....New York
Cronin, William.....Connecticut
Cross, Frank Bethel.....New York
Cunningham, Joseph Atwood, A.B., *N. Y. City College*.....New York
Curtiss, Charles Romaine.....New Jersey
Darling, Everett Field.....Massachusetts
Darrach, James Wilmarth.....New Jersey
Deely, George Edward.....Massachusetts
Dempewolff, August Fred.....New York
Ditman, Norman Edward, Ph.B., *Yale*.....New Jersey
Dodd, Edward Lewis, A.B., *Princeton*.....New Jersey
Donahoe, Silas Howard.....Rhode Island
Donnelly, Charles, Jr.....Pennsylvania
Donohue, Francis Bernard, A.M., *Seton Hall*.....New Jersey
Dorman, Harry Gaylord, A.B., *Harvard*.....New Jersey
Drake, William Wilson.....New York
Driscoll, Daniel Michael.....Connecticut
Duffield, Francis, A.B., *Harvard*.....Michigan
Dwyer, Joseph William.....New Jersey
Eaton, Alvin Richard, Jr.....New Jersey
Everitt, Chauncey Valentine.....New Jersey
Fahnestock, Clarence.....New Yerk
Fahnestock, Ernest.....New York
Feeter, Silas Stewart.....New York
Fendrich, Adam Edward.....New York
Fowler, Clarence Vernon, A.B., *Yale*.....New York
Fowler, Edmund Prince.....New York
Fox, John Crary.....Vermont
Frank, Robert Tilden, A.B., *Harvard*.....New York
Frazer, Harvey Thompson.....New York
Frentzel, Louis Herman Walter.....New Jersey
Frissell, Lewis Fox, A.B., *Yale*.....New York
Fry, Howard James.....New York
Funk, John Arthur, A.B., *New York University*.....New York
Gershel, Milton, B.S., *N. Y. City College*.....New York
Gieschen, Albert Henry, Ph.G., *College of Pharmacy*.....New York
Goodman, Marcus.....New York
Graham, James Frank, Jr.....Tennessee
Grant, James Edward.....New York
Grausman, Philip Michael, A.B., *Citadel Academy*.....North Carolina
Greene, Simon, Jr.....New York
Green, Stith Gordon, A.B., *Millsop College*.....Mississippi
Haberstroh, Arthur.....New York
Hall, Charles Henry.....New York
Halsey, Robert Hurtin, A.B., *Columbia*.....New York
Hanscom, Howard Chapin, B.A., *Colby*.....Maine

Hart, George Washington.....New York
Haven, Samuel Carruth, A.B., *Amherst*.....New Jersey
Hayt, Ralph Agustus.....New York
Henriquez, Charles Louis, B.S., *Seton Hall*.....New York
Hensel, Otto.....New York
Holmes, George Jenkinson.....New Jersey
Hooker, Ransom Spofford, B.L., *Hobart*.....New Jersey
Hoole, Lester Page, A.B., *Yale*.....New York
Horowitz, Jacob.....New York
Horsford, Frederick Charles, Ph.G., *College of Pharmacy*.....New York
Hubschmitt, Adam Wendell, A.B., *N. Y. City College*.....New York
Hutton, Edward Hyatt, A.B., *Williams*.....New York
Hynes, Edward Gibson, A.B., *St. Francis Xavier*.....New York
Ireland, William de Forest.....New York
Jacoby, Leo.....New York
Jarmulowsky, Harry.....New York
Jedel, Meyer.....New Jersey
Jones, Mortimer Dunham.....New York
Kahn, Samuel.....New York
Kelly, Aquinas Sarsfield.....New York
Kennedy, Thomas Joyce Lenox.....New York
Keresey, Walter Louis.....New Jersey
Kirkman, Leroy Gresham, A.B., *Princeton*.....New York
Knowles, Frederick.....New York
Knudsen, Arthur Sinclair, A.B., *Harvard*.....Hawaiian Islands
Koronefsky, Jacob.....New York
Krebs, Maurice Hill.....New York
Krug, Ernest Frederick.....Ohio
Landes, Edwin Walter.....New Jersey
Lathrop, Samuel Salisbury.....Connecticut
Lawson, Leonidas Moreau, Jr.....New York
Lebhar, Norman Jacob.....New York
Levy, Edward.....New York
Lobenstine, Ralph Waldo, A.B., *Yale*.....New York
Loughran, Frederick Percival.....New York
Love, Leslie Clifford, A.B., *Princeton*.....New Jersey
Lyle, Henry Hamilton Moore.....Canada
Lynch, Thomas Lester.....New York
Macdougall, Geoffrey Westrope.....Canada
Mantinband, Jacob.....New York
Margulies, Irving.....New York
Margulis, Jacob.....New York
Marks, Louis, B.S., *N. Y. City College*.....New York
Marsh, Elias Joseph, Jr., A.B., *Harvard*.....New Jersey
Martin, Thomas Aloysius, B.S., *N. Y. City College*.....New York
Martin, Urban Francis, B.S., *N. Y. City College*.....New York
McCabe, Thomas Sheridan.....New Jersey

McCarville, Frank Joseph.....New York
McConnon, Francis James.....New York
McFarland, William Landram.....New York
McGrew, John Tarn.....Hawaiian Islands
McKenzie, Edward Townsend, A.B., *New York University*.....New Jersey
McKeon, John Gerald.....New York
McLaughlin, Andrew Joseph, Jr.....Connecticut
McLean, Alfred Jewett.....New York
Medina, Fred Emanuel.....Massachusetts
Menk, Paul Ernest.....New Jersey
Miller, Ethelbert Wesly.....New Jersey
Miller, Franklyn Henry.....New York
Millspaugh, Willard Pierrepont, A.B., *Williams*.....New York
Mitchell, Robert Jack.....New York
Montgomery, Walter Clark.....New York
Moore, Clifford Colgate.....New York
Moschcowitz, Eli, A.B., *N. Y. City College*.....New York
Mount, James Baker.....New Jersey
Mund, Conrad, A.B., *N. Y. City College*.....New York
Navoni, James.....New York
Newmark, Alexander.....New York
Noonan, Cornelius James.....New York
North, Charles Edward, A.B., *Wesleyan*.....New Jersey
O'Connor, John Francis.....New York
O'Dwyer, Joseph.....New York
Orgel, David Henry.....New York
Pakelnishky, Maurice, Ph.B., *Syracuse*.....New York
Pannaci, Charles Emonual.....New Jersey
Park, William.....New York
Parton, Arthur Taylor.....New York
Pascual, William Vincent.....New York
Patterson, Henry Stuart, A.B., *Williams*.....New York
Pearson, Charles Edward.....New York
Pelgram, George Oscar.....New York
Pindar, Frederick Standish.....New York
Pittman, John Green, A.B., *Univ. of Georgia*.....Georgia
Plotz, Isaac Israel.....New Jersey
Pobe, George Otto.....New York
Polesky, Henry Benjamin.....New York
Pond, Ashley, Jr.....Michigan
Porter, Elisha Pender, A.B., *Davidson*.....North Carolina
Quel, Barnett.....New York
Quinby, William O'Gorman.....New Jersey
Rabinovitz, Meyer.....New York
Rang, Alvin Franklin.....New York
Redington, John Aloysius.....Pennsylvania
Reichers, George Henry.....New York

Reinsberg, Charles Hermann, A.M., *Princeton*.....New York
Reiss, Henry.....New York
Reynolds, Harry Badger, A.B., *Leland Stanford*.....California
Roos, Lester Laurens.....New York
Rosensohn, William.....New York
Rowe, Norman Leslie, Jr.....New Jersey
Sanford, James Brownlee.....New York
Satterlee, Henry Suydam, A.B., *Harvard*.....New York
Saunders, Norman Brown.....New York
Schneidenbach, Arthur Jacques.....New York
Schroeder, William Moller.....New York
Seelig, Major Gabriel, A.B., *Harvard*.....Arkansas
Senftner, Herman Francis, A.B., *Columbia*.....New York
Shanahan, Robert Henderson.....New York
Shangle, Milton Allison.....New Jersey
Shipman, Clark Smythe.....New York
Slevin, John Joseph.....New York
Smith, Fred Willard.....New York
Smith, Harry Victor.....New Jersey
Smith, Philip.....New York
Spalding, Alfred Baker, A.B., *Leland Stanford*.....Kansas
Staib, Louis Loyall.....New Jersey
Steedly, Benjamin Broadus.....Georgia
Steinberger, Jerome Sewell.....New York
Stern, Max.....New Jersey
Stewart, James Fleury.....New York
Stone, William.....Connecticut
Stradling, Frank.....New York
Tarun, William, Jr.....Maryland
Taylor, Walter.....New Jersey
Thomas, Pride Jones.....North Carolina
Todd, Luther Anson.....Kansas
Toering, Albert John.....New Jersey
Tomlinson, Rolland Davis.....New Jersey
Trudeau, Edward Livingston, Jr., A.B., *Yale*.....New York
Uhl, Carl Manfred, A.B., *Columbia*.....New York
Valentine, Morris Crawford, A.B., *N. Y. City College*.....New York
Van Cise, Edwin Basil Courtlandt.....New Jersey
Van Der Clock, Cornelius.....New Jersey
Van Doren, George Bickford.....New York
Van Vranken, Albert Bensen, Ph.B., *Union*.....New York
Vogel, Karl Max, Ph.G., *College of Pharmacy*.....New York
Vostrovsky, Jerome Jaroslav.....California
Vreeland, Clarence Le Fever.....New Jersey
Walker, Isaac Leander.....New York
Walser, Frederic Theodore.....New York
Walsh, James Joseph Sebastian, B.S., *Manhattan*.....New York

Watson, Elbert Lycurgus.....Arkansas
Washburn, Philip Carter, B.A., *Trinity*.....Connecticut
Wason, David Boughton.....New York
Weber, Leonard Gruner.....New York
Weed, Vernooy Wayland.....New York
Weil, Richard, A.B., *Columbia*.....New York
Weinstein, Julius.....New York
Welch, John Edgar, A.B., *Wesleyan*.....Illinois
Wells, Jonathan Godfrey.....Connecticut
Wheeler, Alfred Winslow.....Maine
Wheeler, William Louis, B.S., *Colgate*.....New York
White, Gilbert Crockar.....New Jersey
White, John Francis.....New York
Whitefield, William Brown.....Kentucky
Whitenack, Miller Royal, B.S., *Rutgers*.....New Jersey
Wilson, Arthur Starkey.....New York
Wilson, Edward Earl.....Texas
Wilson, Philip Sheridan, A.M., *Lafayette*.....New York
Wilson, William Caldwell.....Pennsylvania
Winchester, Walter Henry.....Minnesota
Winter, Allen Lawrence.....Illinois
Wise, Arthur Heston.....New York
Woodruff, Harry Adsit.....New York

First Year Class..... 256

SPECIAL STUDENTS

Bailey, Frederick Randolph, A.M., *Princeton*, M.D., *Columbia*...New Jersey
Barclay, James Searle, Jr.....New York
Bonnell, Clarence Hornbeck, A.B., *Rutgers*.....New York
Bradin, Edward De Lancey, M.D., *Univ. of Pennsylvania*.....New Jersey
Cornell, Herbert James.....New York
Cornish, Harry Seymour.....New York
Douglass, Robert Francis.....New Jersey
Elliott, William St. George, Jr.....New York
Hayden, John Brannum, M.D., *Univ. of Pennsylvania*.....New York
Hennesey, James Francis, Jr.....New York
Jelliffe, Smith Ely, A.B., *Brooklyn Polytechnic*, M.D., *Columbia*...New York
Knapp, Mark Israel, M.D., *New York University*.....New York
Knopf, Siegmund Adolph, M.D., *Bellevue*.....New York
Kurzman, Julius Cæsar.....New York
Lanzer, Lewis, M.D., *Univ. of Tennessee*.....New York
Lucas, William Henry, A.B., *Marietta*, M.D., *Medical College of Ohio*..Ohio
Maher, James Stephen, Ph.B., M.D., *Yale*.....Connecticut
Marsh, Seymour Nathaniel.....New York
McCastline, William Henry.....New York
Moynan, William Thomas.....New York

O'Brien, Michael Christopher, A.B., A.M., *Manhattan*, M.D., *Bellevue*.....New York
Reinhardt, Emanuel.....New York
Santamaria, Abraham, M.D., *Univ. of Santo Domingo*.....West Indies
Schulhofer, Samuel.....New York
Spiegel, Leo.....New York
Yarnell, Dell Elmyrt, M.D., *Columbia*.....New York
Zimlick, Arthur John, M.B., *St. Louis Medical*.....Missouri
Special Students..... 27

OLD CURRICULUM STUDENTS

Bodine, Louis Albert Sayre.....New York
Bresler, Max.....New York
Cooley, Herbert Sutherland.....New York
Costello, David Ferry.....New Jersey
Dobkin, Nicholas.....New York
Ehlers, Edward Cargill.....New York
Fritts, Andrew Suydam.....New Jersey
Howard, Charles James.....Massachusetts
Johnson, William Throckmorton, A.B., *Princeton*.....New Jersey
Johnstone, William Cameron.....New York
Josephs, Charles Samuel.....New York
Miller, Richard Thomas.....New York
Nordstrom, Carl Jonas Ericsson.....New York
Roof, Stephen White.....New York
Rothwell, Thomas Albert.....New York
Slevin, Walter Thomas.....New York
Smith, Robert Newhall.....New York
Stafford, Harry Grant.....New York
Timme, Walter, B.S., *N. Y. City College*.....New York
Tobias, Leo, B.S., *N. Y. City College*.....New York
Van Ness, William Percy.....New York
Young, William Bellamy.....New York
Old Curriculum Students..... 22
Seniors from Columbia College..... 3

SUMMARY

Third Year Class	149
Second Year Class	156
First Year Class	256
Special Students	27
Old Curriculum Students	22
Students primarily registered under this Faculty	10
Students from other Faculties of the University	3
Total	623

SCHOOL OF MINES
SCHOOL OF CHEMISTRY
SCHOOL OF ENGINEERING
SCHOOL OF ARCHITECTURE

UNDER THE DIRECTION OF THE FACULTY OF APPLIED SCIENCE

The following departments are represented :

ARCHITECTURE
ASTRONOMY
CHEMISTRY
CIVIL ENGINEERING
ELECTRICAL ENGINEERING
MECHANICAL ENGINEERING
GEOLOGY
MATHEMATICS
MECHANICS
MINERALOGY
METALLURGY
MINING
PHYSICS

Officers of the Faculty

CHARLES F. CHANDLER, Ph.D., M.D., LL.D.
Dean and ex-officio Member of the University Council
HENRY S. MUNROE, E.M., Ph.D. *Elected Delegate to the University Council*

Standing Committees

COMMITTEE ON ADMISSIONS AND EXAMINATIONS : Professors Chandler, Van Amringe, Munroe

COMMITTEE ON SPECIAL STUDENTS : Professors Chandler, Hutton, Hamlin

The Faculty

SETH LOW, LL.D., *President*

THOMAS EGLESTON, E.M., Ph.D., LL.D., *Professor of Mineralogy and Metallurgy*
CHARLES F. CHANDLER, Ph.D., M.D., LL.D., *Professor of Chemistry*
JOHN HOWARD VAN AMRINGE, A.M., Ph.D., L.H.D., *Professor of Mathematics*
OGDEN N. ROOD, A.M., *Professor of Physics*
HENRY S. MUNROE, E.M., Ph.D., *Professor of Mining*

WILLIAM R. WARE, B.S., *Professor of Architecture*
FREDERICK R. HUTTON, A.M., C.E., Ph.D., *Professor of Mechanical Engineering*
JOHN KROM REES, A.M., E.M., Ph.D., *Professor of Astronomy and Director of the Observatory*
PIERRE DE PEYSTER RICKETTS, E.M., Ph.D., *Professor of Analytical Chemistry and Assaying*
ALFRED D. F. HAMLIN, A.M., *Adjunct Professor of Architecture*
ALFRED J. MOSES, E.M., Ph.D., *Adjunct Professor of Mineralogy*
CHARLES E. COLBY, E.M., C.E., *Adjunct Professor of Organic Chemistry*
FRANK DEMPSTER SHERMAN, Ph.B., *Adjunct Professor of Architecture*
JAMES F. KEMP, A.B., E.M., *Professor of Geology*
ROBERT PEELE, E.M., *Adjunct Professor of Mining*
WILLIAM HALLOCK, A.B., Ph.D., *Adjunct Professor of Physics*
FRANCIS B. CROCKER, E.M., Ph.D., *Professor of Electrical Engineering*
WILLIAM H. BURR, C.E., *Professor of Civil Engineering*
ROBERT S. WOODWARD, C.E., Ph.D., *Professor of Mechanics*

NOTE: For details as to other officers of instruction see departmental statements.

Courses of Instruction

The Faculty of Applied Science offers seven technical courses leading to professional degrees. These courses consist entirely of required work. Besides this professional instruction the Faculty permits certain subjects to be studied in partial fulfillment of the requirements for the degrees of A.B., A.M. and Ph.D.; and also, under special conditions, admits students who are not candidates for a degree, to pursue special subjects.

For the sake of clearness, the necessary information as to these different kinds of work is set forth in two parts, numbered respectively I and II.

Part I

UNDERGRADUATE COURSES FOR THE PROFESSIONAL DEGREES

1	Mining Engineering	leading to the degree of	E.M.
2	Civil Engineering	" " " " "	C.E.
3	Sanitary Engineering	" " " " "	C.E.
4	Electrical Engineering	" " " " "	E.E.
5	Metallurgy	" " " " "	Met.E.
6	Analytical and Applied Chemistry	" " " " "	B.S.
7	Architecture	" " " " "	B.S.

The course in Mechanical Engineering will be offered for the first time in 1897, or upon removal to the new site

COURSE IN MINING ENGINEERING

First Year

Trigonometry (Mathematics V*)—4 hours, first part of first term
Algebra (Mathematics V) —4 hours, second part of first term
Analytical Geometry (Mathematics V)—4 hours, second term
Physics (Physics I)—3 hours
Chemistry (Chemistry I)—3 hours
Qualitative Analysis (Chemistry IX)—3 hours, and 4 afternoons and Saturdays of alternate weeks laboratory
Botany (Botany III)—2 hours, first term
Zoölogy (Zoölogy I)—2 hours, second term
Blowpipe Analysis (Mineralogy I)—1 hour, and afternoons of alternate weeks laboratory, first term
Crystallography (Mineralogy II)—2 hours, first term
Mineralogy (Mineralogy III)—2 hours, and 3 hours laboratory, second term
Surveying (Civil Engineering I)—2 hours, second term
Drawing (Mechanical Engineering I)—1 hour, and drawing-room, first term
Descriptive Geometry and Drawing (Mechanical Engineering I)—2 hours, and afternoons of alternate weeks drawing-room, second term

Summer Vacation

Surveying (Civil Engineering XV)—6 weeks field work

Second Year

Analytical Geometry and Calculus (Mathematics VII)—4 hours
Physics (Physics III)—2 hours, first term
Physical Laboratory (Physics III)—2 hours
Applied Chemistry (Chemistry XXIX)—3 hours
Quantitative Analysis (Chemistry XVI)—2 hours, and 4 afternoons and Saturdays laboratory, second term
Mineralogy (Mineralogy III)—2 hours, and 3 hours laboratory, first term
Optical Mineralogy (Mineralogy VI)—2 hours, and 2 hours laboratory for 2 months, second term
Petrography (Geology IV)—2 hours, and 1 afternoon for 2 months, second term
Excavation and Tunnelling (Mining I)—3 hours, first term
Boring and Shaft Sinking (Mining II)—3 hours for 3 months, second term
Support of Mine Excavations (Mining IIa)—3 hours for 1 month, second term
Drawing (Mechanical Engineering I and II)—4 afternoons drawing-room, first term

Summer Vacation

Practical Mining (Mining XI) *optional*—5 weeks
Field Geology (Geology XI) *optional*—1 week
Surveying (Civil Engineering XVI)—6 weeks field work
Railroad Surveying (Civil Engineering XVII) *optional*—4 weeks field work

* See pages 41 to 143 for departmental statements

COURSE IN MINING ENGINEERING

Third Year

Analytical Mechanics (Mechanics I)—3 hours
Assaying (Chemistry XXI)—4 hours, and 3 afternoons and Saturdays laboratory, first term
Geology (Geology II)—3 hours
Resistance of Materials (Civil Engineering V)—3 hours, first term ; 2 hours, second term
Testing of Materials (Mechanical Engineering XVI)—Afternoon laboratory
Engineering of Power Plants (Mechanical Engineering XI)—1 hour, second term
Mining (Mining III)—4 hours, first term
Ore Dressing (Mining IV)—4 hours for 3 months, second term
Mine Constructions (Mining VIIA)—4 hours for 1 month, second term
Metallurgy (Metallurgy I and II)—4 hours
Electrical Engineering (Electrical Engineering V)—1 hour, and 1 afternoon laboratory, second term
Graphic Statics (Civil Engineering VI)—2 hours, second term
Design, Problems (Civil Engineering V and VI)—Afternoon work
Vacation Class in Mechanical Engineering (Mechanical Engineering XXXV) *optional*—second term

Summer Vacation

Practical Mining (Mining XI)—5 weeks
Field Geology (Geology XI)—1 week
Railroad Surveying (Civil Engineering XVII)—4 weeks field work

Fourth Year

Economic Geology (Geology III)—3 hours
Thermodynamics (Mechanics IV)—3 hours, first term
The Steam Engine and its Accessories (Mechanical Engineering XII)—3 hours, first term
The Steam Boiler and its Accessories (Mechanical Engineering XIII)—3 hours, second term
Heat and its Applications (Mechanical Engineering XIX)—2 hours, and laboratory
Motors (Mechanical Engineering XX)—1 hour, first term
Dynamics of Motors (Mechanical Engineering XXI)—1 hour, second term
Mine Engineering (Mining VI)—2 hours, first term ; 1 hour, second term
Mine Plant (Mining VII)—3 hours, first term ; 2 hours, second term
Mine Surveying (Mining IX)—1 hour, second term
Mine Administration (Mining X)—1 hour, second term
Metallurgy (Metallurgy III)—4 hours
Ore Dressing Laboratory (Mining V)—1 afternoon, first half of second term
Ore Testing (Chemistry XXIII)—1 afternoon, last half of second term
Design of Mine Plant (Mining VIII)—5 afternoons, first term ; 4 afternoons, second term
Project or Thesis in Mining

COURSE IN CIVIL ENGINEERING

First Year

TRIGONOMETRY (Mathematics V*)—4 hours, first part of first term
ALGEBRA (Mathematics V)—4 hours, second part of first term
ANALYTICAL GEOMETRY (Mathematics V)—4 hours, second term
PHYSICS (Physics I)—3 hours
CHEMISTRY (Chemistry I)—3 hours
BOTANY (Botany III)—2 hours, first term
SURVEYING (Civil Engineering I)—2 hours, second term
DRAWING (Mechanical Engineering I)—1 hour, and drawing-room, first term
DESCRIPTIVE GEOMETRY AND DRAWING (Mechanical Engineering I)—2 hours, and drawing-room, second term

Summer Vacation

SURVEYING (Civil Engineering XV)—6 weeks field work

Second Year

ANALYTICAL GEOMETRY AND CALCULUS (Mathematics VII)—4 hours
PHYSICS (Physics III)—2 hours, first term
PHYSICAL LABORATORY (Physics III)—2 hours
APPLIED CHEMISTRY (Chemistry XXIX)—3 hours
MINERALS OF BUILDING STONES (Mineralogy IV)—2 hours, and 2 hours laboratory
ROAD ENGINEERING (Civil Engineering II)—2 hours, first term
WATER SUPPLY AND IRRIGATION (Civil Engineering III)—2 hours, second term
EXCAVATION AND TUNNELLING (Mining I)—3 hours, first term
GRAPHICS AND DRAWING (Mechanical Engineering I and II)—2 hours, and drawing-room, first term
DRAWING (Mechanical Engineering I and II)—2 hours, and drawing-room, second term

Summer Vacation

SURVEYING (Civil Engineering XVI)—6 weeks field work

* See pages 41 to 143 for departmental statements

COURSE IN CIVIL ENGINEERING

Third Year

ANALYTICAL MECHANICS (Mechanics I)—3 hours

GEOLOGY (Geology II)—3 hours

GEODESY (Astronomy III)—2 hours

RESISTANCE OF MATERIALS (Civil Engineering V)—3 hours, first term; 2 hours, second term

PROPERTIES OF MATERIALS (Mechanical Engineering X and XVI)—2 hours, and laboratory

ENGINEERING OF POWER PLANTS (Mechanical Engineering XI)—1 hour, second term

MASONRY STRUCTURES (Civil Engineering IV)—1 hour

THEORY OF TRUSSES (Civil Engineering VII)—2 hours, second term

SEWAGE DISPOSAL (Civil Engineering VIII)—2 hours, first term

GRAPHIC STATICS (Civil Engineering VI)—2 hours, second term

THEORY OF RAILROAD SURVEYING (Civil Engineering XIV)—1 hour

ELECTRICAL ENGINEERING (Electrical Engineering V)—1 hour, and 1 afternoon laboratory, second term

DESIGN, PROBLEMS (Civil Engineering IV, V, VI, and VII)—Afternoon work

VACATION CLASS IN MECHANICAL ENGINEERING (Mechanical Engineering XXXV) *optional*—second term

Summer Vacation

PRACTICAL GEODESY (Astronomy III)—6 weeks

RAILROAD SURVEYING (Civil Engineering XVII)—4 weeks field work

Fourth Year

GEODESY (Astronomy III)—2 hours, first term

DESIGN OF BRIDGES AND BUILDINGS (Civil Engineering X)—2 hours

HYDRAULICS (Civil Engineering XII)—2 hours, first term

THERMODYNAMICS (Mechanics IV)—3 hours, first term

THE STEAM ENGINE AND ITS ACCESSORIES (Mechanical Engineering XII)—3 hours, first term

THE STEAM BOILER AND ITS ACCESSORIES (Mechanical Engineering XIII)—3 hours, second term

HEAT AND ITS APPLICATIONS (Mechanical Engineering XIX)—2 hours, and laboratory

MOTORS (Mechanical Engineering XX)—1 hour, first term

DYNAMICS OF MOTORS (Mechanical Engineering XXI)—1 hour, second term

MACHINERY AND MECHANISM (Mechanical Engineering XVIII)—2 hours

PUMPS AND PUMPING ENGINES (Mechanical Engineering XXVII)—course of 6 lectures, first term

FOUNDATIONS (Civil Engineering XI)—2 hours

SEWERS AND HARBORS (Civil Engineering XIII)—2 hours, second term

RAILROAD ENGINEERING (Mechanical Engineering XXVI)—3 hours, first half of first term; (Civil Engineering IX)—3 hours, second half of first term, 3 hours, second term

DESIGN, PROBLEMS (Civil Engineering IX, X, XI, XII, and XIII)—Afternoon work

PROJECT OR THESIS

COURSE IN SANITARY ENGINEERING

First Year

TRIGONOMETRY (Mathematics V*)—4 hours, first part of first term

ALGEBRA (Mathematics V)—4 hours, second part of first term

ANALYTICAL GEOMETRY (Mathematics V)—4 hours, second term

PHYSICS (Physics I)—3 hours

CHEMISTRY (Chemistry I)—3 hours

BOTANY (Botany III)—2 hours, first term

SURVEYING (Civil Engineering I)—2 hours, second term

DRAWING (Mechanical Engineering I)—1 hour, and drawing-room, first term

DESCRIPTIVE GEOMETRY AND DRAWING (Mechanical Engineering I)—2 hours, and drawing-room, second term

Summer Vacation

SURVEYING (Civil Engineering XV)—6 weeks field work

Second Year

ANALYTICAL GEOMETRY AND CALCULUS (Mathematics VII)—4 hours

PHYSICS (Physics III)—2 hours, first term

PHYSICAL LABORATORY (Physics III)—2 hours

APPLIED CHEMISTRY (Chemistry XXIX)—3 hours

MINERALS OF BUILDING STONES (Mineralogy IV)—2 hours, and 2 hours laboratory

ROAD ENGINEERING (Civil Engineering II)—2 hours, first term

WATER SUPPLY AND IRRIGATION (Civil Engineering III)—2 hours, second term

SANITARY ENGINEERING OF BUILDINGS (Sanitary Engineering I)—2 hours, first term

GENERAL BIOLOGY—2 hours, second term

GRAPHICS AND DRAWING (Mechanical Engineering I and II)—2 hours, and drawing-room, first term

DRAWING (Mechanical Engineering I and II)—2 hours, and drawing-room, second term

Summer Vacation

SURVEYING (Civil Engineering XVI)—6 weeks field work

* See pages 41 to 143 for departmental statements

COURSE IN SANITARY ENGINEERING

Third Year

Analytical Mechanics (Mechanics I)—3 hours
Geology (Geology II)—3 hours
Geodesy (Astronomy III)—2 hours
Resistance of Materials (Civil Engineering V)—3 hours, first term ; 2 hours, second term
Microscopy—2 hours, and 2 hours laboratory
Engineering of Power Plants (Mechanical Engineering XI)—1 hour, second term
Masonry Structures (Civil Engineering IV)—1 hour, second term
Theory of Trusses (Civil Engineering VII)—2 hours, second term
Sewage Disposal (Civil Engineering VIII)—2 hours, first term
Graphic Statics (Civil Engineering VI)—2 hours, second term
Theory of Railroad Surveying (Civil Engineering XIV)—1 hour
Electrical Engineering (Electrical Engineering V)—1 hour, and 1 afternoon laboratory, second term
Design, Problems (Civil Engineering IV, V, VI, and VII)—afternoon work
Vacation Class in Mechanical Engineering (Mechanical Engineering XXXV) *optional*—second term

Summer Vacation

Practical Geodesy (Astronomy III)—6 weeks
Railroad Surveying (Civil Engineering XVII)—4 weeks field work

Fourth Year

Heating and Ventilation—2 hours
Design of Bridges and Buildings (Civil Engineering X)—2 hours, first term
Hydraulics (Civil Engineering XII)—2 hours, first term
Thermodynamics (Mechanics IV)—3 hours, first term
The Steam Engine and its Accessories (Mechanical Engineering XII)—3 hours, first term
The Steam Boiler and its Accessories (Mechanical Engineering XIII)—3 hours, second term
Heat and its Applications (Mechanical Engineering XIX)—2 hours, and laboratory
Motors (Mechanical Engineering XX)—1 hour, first term
Dynamics of Motors (Mechanical Engineering XXI)—1 hour, second term
Microbiology—2 hours, and 2 hours laboratory
Pumps and Pumping Engines (Mechanical Engineering XXVII)—course of 6 lectures, first term
Foundations (Civil Engineering XI)—2 hours, first term
Drainage of Country Districts and Towns—2 hours, second term
Sewers and Harbors (Civil Engineering XIII)—2 hours, second term
Railroad Engineering (Mechanical Engineering XXVI)—3 hours, first half of first term ; (Civil Engineering IX)—3 hours, second half of first term ; 3 hours, second term
Design, Problems (Civil Engineering IX, X, XI, XII, and XIII)—After noon work
Project or Thesis

COURSE IN ELECTRICAL ENGINEERING

First Year

TRIGONOMETRY (Mathematics V*)—4 hours, first part of first term

ALGEBRA (Mathematics V)—4 hours, second part of first term

ANALYTICAL GEOMETRY (Mathematics V)—4 hours, second term

PHYSICS (Physics I)—3 hours

CHEMISTRY (Chemistry I)—3 hours

QUALITATIVE ANALYSIS (Chemistry IX)—4 hours, and 4 afternoons and Saturdays of alternate weeks laboratory

DRAWING (Mechanical Engineering I)—1 hour, and afternoons of alternate weeks drawing-room, first term

DESCRIPTIVE GEOMETRY AND DRAWING (Mechanical Engineering I)—2 hours, and afternoons of alternate weeks drawing-room, second term

Summer Vacation

SUMMER WORK, a set of drawings

Second Year

ANALYTICAL GEOMETRY AND CALCULUS (Mathematics VII)—4 hours

PHYSICS (Physics III)—2 hours

PHYSICAL LABORATORY (Physics III)—8 hours

APPLIED CHEMISTY (Chemistry XXIX)—3 hours

QUANTITATIVE ANALYSIS (Chemistry XVI)—1 hour, and 3 hours laboratory, second term

ELEMENTS OF ELECTRICAL ENGINEERING (Electrical Engineering VII)—1 hour first term, 2 hours second term

ENGINEERING OF POWER PLANTS (Mechanical Engineering XI)—1 hour, second term

GRAPHICS AND DRAWING (Mechanical Engineering I and II)—2 hours, and 3 afternoons drawing-room, first term

DRAWING (Mechanical Engineering I and II)—2 hours, and 3 afternoons drawing-room, second term

Summer Vacation

MEMOIR

NOTE.—Beginning with the year 1897-8 Mechanical Shop-work will be introduced into the first and second years of this course

* See pages 41 to 143 for departmental statements

COURSE IN ELECTRICAL ENGINEERING

Third Year

Analytical Mechanics (Mechanics I)—3 hours

Resistance of Materials (Civil Engineering V)—3 hours, and 2 afternoons, first term ; 2 hours, and 2 afternoons, second term

Properties of Materials (Mechanical Engineering X and XVI)—2 hours, and laboratory

Testing of Materials (Mechanical Engineering XVI)—afternoon laboratory

The Steam Engine and its Accessories (Mechanical Engineering XII)—3 hours, first term

The Steam Boiler and its Accessories (Mechanical Engineering XIII)—3 hours, second term

Dynamo and Motor Practice (Electrical Engineering I)—3 hours, first term

Electrical Engineering (Electrical Engineering VI)—1 hour

Electrical Engineering Laboratory (Electrical Engineering X)—2 afternoons

Electric Lighting (Electrical Engineering IV)—3 hours, second term

Theory of Dynamo and Motor (Mechanics VI)—3 hours, first term ; (Mechanics VII)—3 hours, second term

Drawing (Mechanical Engineering XXII)—1 afternoon

Vacation Class in Mechanical Engineering (Mechanical Engineering XXXV) *optional*—second term

Summer Vacation

Memoir

Fourth Year

Thermodynamics (Mechanics IV)—3 hours, first term

Heat and its Applications (Mechanical Engineering XIX)—2 hours, and laboratory

Motors (Mechanical Engineering XX)—1 hour, first term

Dynamics of Motors (Mechanical Engineering XXI) 1 hour, second term

Machinery and Mechanism (Mechanical Engineering XVIII)—2 hours

Electrical Engineering (Electrical Engineering III)—1 hour, first term ; 3 hours, second term

Electrical Engineering Laboratory (Electrical Engineering XI and XII)—3 afternoons, first term ; work in connection with graduation thesis, second term

Electric Power (Electrical Engineering II)—3 hours, first term

Theory of Alternators and Transformers (Mechanics VIII)—3 hours, first term

Electric Railway (Electrical Engineering VIII)—2 hours, second term

Theory of Variable Currents (Mechanics IX)—2 hours, second term

Advanced Theory of Electricity (Mechanics XIV, XIVa, XV, or XVII), *optional*—second term

Drawing, Problems, and Design (in connection with Electrical Engineering II and III), first term ; (in connection with Electrical Engineering II, III, and VIII), second term

Thesis

COURSE IN METALLURGY

First Year

TRIGONOMETRY (Mathematics V*)—4 hours, first part of first term

ALGEBRA (Mathematics V)—4 hours, second part of first term

ANALYTICAL GEOMETRY (Mathematics V)—4 hours, second term

PHYSICS (Physics I)—3 hours

CHEMISTRY (Chemistry I)—3 hours

QUALITATIVE ANALYSIS (Chemistry IX)—4 hours, and 4 afternoons and Saturdays of alternate weeks laboratory

BLOWPIPE ANALYSIS (Mineralogy I)—1 hour, and afternoons of alternate weeks laboratory, first term

CRYSTALLOGRAPHY (Mineralogy II)—2 hours, first term

MINERALOGY (Mineralogy III)—2 hours, and 3 hours laboratory, second term

SURVEYING (Civil Engineering I)—2 hours, second term

DRAWING (Mechanical Engineering I)—1 hour, drawing-room, first term

DESCRIPTIVE GEOMETRY AND DRAWING (Mechanical Engineering I)—2 hours and afternoons of alternate weeks drawing-room, second term

Summer Vacation

SURVEYING (Civil Engineering XV)—6 weeks field work

Second Year

ANALYTICAL GEOMETRY AND CALCULUS (Mathematics VII)—4 hours

PHYSICS (Physics III)—2 hours, first term

PHYSICAL LABORATORY (Physics III)—2 hours

APPLIED CHEMISTRY (Chemistry XXIX)—3 hours

QUANTITATIVE ANALYSIS (Chemistry XIV)—2 hours, and 4 afternoons and Saturdays laboratory

OPTICAL MINERALOGY (Mineralogy VI)—2 hours, and 2 hours laboratory for 2 months, second term

PETROGRAPHY (Geology IV)—2 hours, and 1 afternoon for 2 months, second term

MINERALOGY (Mineralogy III)—2 hours, and 3 hours laboratory, first term

EXCAVATION AND TUNNELLING (Mining I)—3 hours, first term

BORING AND SHAFT SINKING (Mining II)—3 hours for 3 months, second term

SUPPORT OF MINE EXCAVATIONS (Mining IIA)—3 hours for 1 month, second term

GRAPHICS AND DRAWING (Mechanical Engineering I)—2 hours, and drawing-room, first term

DRAWING (Mechanical Engineering I)—2 hours, and drawing-room, second term

Summer Vacation

PRACTICAL MINING (Mining XI) *optional*—5 weeks

FIELD GEOLOGY (Geology XI) *optional*—1 week

SURVEYING (Civil Engineering XVI)—6 weeks field work

RAILROAD SURVEYING (Civil Engineering XVII) *optional*—4 weeks field work

* See pages 41 to 143 for departmental statements

COURSE IN METALLURGY

Third Year

ANALYTICAL MECHANICS (Mechanics I)—3 hours

QUANTITATIVE ANALYSIS (Chemistry XIV)—2 hours, and 4 afternoons and Saturdays laboratory, second term

ASSAYING (Chemistry XXI)—4 hours, and 3 afternoons and Saturdays laboratory, first term

GEOLOGY (Geology II)—3 hours

RESISTANCE OF MATERIALS (Civil Engineering V)—3 hours, first term; 2 hours, second term

ENGINEERING OF POWER PLANTS (Mechanical Engineering XI)—1 hour, second term

MINING (Mining III)—4 hours, first term

ORE DRESSING (Mining IV)—4 hours for 3 months, second term

MINE CONSTRUCTIONS (Mining VIIa)—4 hours for 1 month, second term

ELECTRICAL ENGINEERING (Electrical Engineering V)—1 hour, and 1 afternoon laboratory, second term

METALLURGY (Metallurgy I and II)—5 hours

GRAPHIC STATICS (Civil Engineering VI)—2 hours, second term

DESIGN, PROBLEMS (Civil Engineering V and VI)—Afternoon work

VACATION CLASS IN MECHANICAL ENGINEERING (Mechanical Engineering XXXV) *optional*—second term

Summer Vacation

PRACTICAL MINING (Mining XI)—5 weeks

FIELD GEOLOGY (Geology XI)—1 week

RAILROAD SURVEYING (Civil Engineering XVII)—4 weeks field work

Fourth Year

ECONOMIC GEOLOGY (Geology III)—3 hours

THERMODYNAMICS (Mechanics IV)—3 hours, first term

THE STEAM ENGINE AND ITS ACCESSORIES (Mechanical Engineering XII)—3 hours, first term

THE STEAM BOILER AND ITS ACCESSORIES (Mechanical Engineering XIII)—3 hours, second term

MOTORS (Mechanical Engineering XX)—1 hour, first term

DYNAMICS OF MOTORS (Mechanical Engineering XXI)—1 hour, second term

HEAT AND ITS APPLICATIONS (Mechanical Engineering XIX)—2 hours, and laboratory

MINE ENGINEERING (Mining VI)—2 hours, first term; 1 hour, second term

MINE PLANT (Mining VII)—3 hours, first term; 2 hours, second term

MINE SURVEYING (Mining IX)—1 hour, second term

MINE ADMINISTRATION (Mining X)—1 hour, second term

METALLURGY (Metallurgy III)—5 hours

ORE DRESSING LABORATORY (Mining V)—1 afternoon, first half of second term

ORE TESTING (Chemistry XXIII)—1 afternoon, last half of second term

DRAWING (in connection with Project)

PROJECT

COURSE IN ANALYTICAL AND APPLIED CHEMISTRY

First Year

Trigonometry (Mathematics V*)—4 hours, first part of first term

Algebra (Mathematics V)—4 hours, second part of first term

Analytical Geometry (Mathematics V)—4 hours, second term

Physics (Physics I)—3 hours

Chemistry (Chemistry I)—3 hours

Chemical Physics (Chemistry III)—2 hours, first term

Stoichiometry (Chemistry IV)—2 hours, second term

Qualitative Analysis (Chemistry IX)—4 hours, and 4 afternoons and Saturdays of alternate weeks laboratory

Botany (Botany III)—2 hours, first term

Zoölogy (Zoölogy I)—2 hours, second term

Blowpipe Analysis (Mineralogy I)—1 hour, and afternoons of alternate weeks laboratory, first term

Crystallography (Mineralogy II)—2 hours, first term

Mineralogy (Mineralogy III)—2 hours, and 3 hours laboratory, second term

Drawing (Mechanical Engineering I)—1 hour, and drawing-room, first term; afternoons of alternate weeks drawing-room, second term

Summer Vacation

Summer Work, a set of drawings

Second Year

Physics (Physics III)—2 hours, first term

Physical Laboratory (Physics III)—2 hours

Applied Chemistry (Chemistry XXIX)—3 hours

Chemical Philosophy (Chemistry V)—2 hours

Quantitative Analysis (Chemistry XIII)—4 hours, and 4 afternoons and Saturdays laboratory

Mineralogy (Mineralogy III)—2 hours, and 3 hours laboratory, first term

Microscopy (Chemistry XXXI)—2 exercises, 2 hours each

Summer Vacation

Memoir

* See pages 41 to 143 for departmental statements

COURSE IN ANALYTICAL AND APPLIED CHEMISTRY

Third Year

Applied Chemistry (Chemistry XXX)—4 hours

Quantitative Analysis (Chemistry XV)—4 hours, and 4 afternoons and Saturdays laboratory, second term

Preparation of Inorganic Compounds (Chemistry VII)—1 hour and 5 afternoons, last half of second term

Assaying (Chemistry XXI)—4 hours, and 3 afternoons and Saturdays laboratory, first term

Geology (Geology II)—3 hours

Metallurgy (Metallurgy I and II)—4 hours

Microbiology (Chemistry XXXVII)—2 exercises in laboratory, 2 hours each

Drawing (Mechanical Engineering II)—1 afternoon drawing-room, second term

Summer Vacation

Memoir

Fourth Year

Applied Chemistry (Chemistry XXX)—4 hours

Organic Chemistry (Chemistry XXV)—6 hours, and at least 18 hours laboratory

Economic Geology (Geology III)—3 hours

Metallurgy (Metallurgy III)—4 hours

Thesis

COURSE IN ARCHITECTURE

First Year

Architectural Engineering (Architecture XIVa*)—2 hours

Elements of Architecture (Architecture VIII)—3 hours, second term

Ancient Architectural History (Architecture I)—3 hours

History of Ancient Ornament (Architecture V)—1 hour

Specifications (Architecture XIIIai)—1 hour

Building Materials (Architecture XIIIbi)—1 hour

Elementary Design (Architecture XV)—1 hour

Projections, Shades and Shadows (Architecture X)—3 hours, first term

Architectural Essays (Architecture XVII)—1 hour

Drawing, Architectural and Freehand (Architecture IXa and c)—17 hours

Historical Drawing (Architecture IXb)—1 hour

Surveying (Civil Engineering I) *optional*—2 hours, second term

Summer Vacation

Surveying (Civil Engineering XV) *optional*—6 weeks field work

Summer Work

Second Year

Perspective (Architecture XI)—8 lectures, December and January

Architectural Engineering (Architecture XIVb)—3 hours

Mediæval Architectural History (Architecture II)—2 hours, first term; 2 hours and 15 hours research, second term

Archæology, French (Architecture XVI)—2 hours

History of Mediæval Ornament (Architecture VI)—1 hour

Theory of Form (Architecture IVa)—1 hour, first term

The Decorative Arts (Architecture IVb)—1 hour, second term

Specifications (Architecture XIIIai)—1 hour

Building Materials (Architecture XIIIbi)—1 hour

Design, Problems (Architecture XV)—15 hours, first term

Historical Design (Architecture II and XV)—3 hours, second term

Architectural Essays (Architecture XVII)—1 hour

Drawing, Freehand (Architecture IXc)—2 hours

Summer Vacation

Surveying (Civil Engineering XVI) *optional*—6 weeks field work

Summer Work

* See pages 41 to 143 for departmental statements

COURSE IN ARCHITECTURE

Third Year

Architectural Engineering (Architecture XIVc)—4 hours

Mediæval Architectural History (Architecture II)—2 hours, first term ; 2 hours and 15 hours research, second term

Archæology, German (Architecture XVI)—2 hours

History of Mediæval Ornament (Architecture VI)—1 hour

Theory of Form (Architecture IVa)—1 hour, first term

The Decorative Arts (Architecture IVb)—1 hour, second term

Specifications (Architecture XIIIai)—1 hour

Building Materials (Architecture XIIIbi)—1 hour

Design, Problems (Architecture XV)—15 hours, first term

Historical Design (Architecture II and XV)—3 hours, second term

Architectural Essays (Architecture XVII—1 hour

Drawing, Freehand (Architecture IXc)—2 hours

Summer Vacation

Summer Work

Fourth Year

Advanced Architectural History (Architecture XVIII)—2 hours

Advanced Architectural Design (Architecture XIX)—25 hours

Advanced Architectural Engineering and Practice (Architecture XX and XXI)—4 hours, and 25 hours practice

Descriptive Geometry (Architecture XII)—1 hour, first term

Stereotomy (Architecture XII)—1 hour, second term

Drawing, Figure, Ornament, and Water-colors (Architecture IXc)—2 hours

Thesis

By-Laws

1 At the beginning of the first year each student must elect which of the seven courses he intends to pursue, and must thenceforth abide by his election unless permitted by the faculty to make a change.

2 No student is allowed to pursue more than one course at a time.

Admission

3 Candidates for admission to the first class, at its formation, must be of the age of *eighteen years*, complete ; and for admission to advanced standing there will be required a corresponding increase of age ; but this rule may be modified when, in the opinion of the faculty, there are sufficient reasons to justify its relaxation.

Enrolment and Certificates

4 An applicant for admission must file with the Dean of the Faculty of Applied Science, at least one week before the day fixed for the entrance examinations, a certificate from his principal instructor containing a definite statement of the subjects which he is qualified to offer for examination.

No student will be examined in June, 1897, whose name is not enrolled and whose certificate is not filed on or before Wednesday, June 2d, of the same year ; nor will any student be examined in September, 1897, whose name is not enrolled and whose certificate is not filed on or before Monday, September 20th.

Blank forms of the certificate required can be had upon application to the Registrar. In the case of students expecting to be examined at a distance from the University, the names must be enrolled and the certificates filed one week earlier.

5 Every candidate must, before admission, present a certificate of good moral character from his last teacher, or from some citizen in good standing, and students from other institutions must bring certificates of honorable dismission.

Entrance Examinations

6 Candidates for the first class must pass satisfactory examinations in :

Mathematics :

Arithmetic : greatest common divisor and least common multiple, common and decimal fractions, percentage, interest, square root, and the metric and other ordinary systems of weights and measures. Special importance is attached to accuracy and facility in calculation.

Algebra (*a*) : factors, common divisors and multiples, fractions, equations of the first degree with one or more unknown quantities, involution, evolution, the doctrine of exponents, radicals, radical equations reducible to equations of the first degree, and putting problems into equations.

Algebra (*b*) : quadratic equations, and such equations with one or more unknown quantities as can be solved by the methods of quadratic equations, ratio and proportion, arithmetical and geometrical progressions, the binomial theorem for positive entire exponents, and the principle of undetermined coefficients including its application to series and partial fractions.

Geometry (*a*) : plane geometry, including the solution of simple original exercises and numerical problems.

Geometry (*b*) : Solid and spherical geometry, including the solution of simple original exercises and numerical problems.

Plane trigonometry : the elementary principles of logarithms, the use of tables of logarithms of numbers and of logarithms of trigonometric functions, and the solution of right-angled and of oblique-angled plane triangles.

Physics :

On the equivalent of Ganot's smaller treatise (Peck's Ganot's Natural Philosophy).

Chemistry :

On the non-metallic elements and their important compounds with each other, as given in the ordinary high-school text-books.

English :

No applicant will be accepted in English whose work is notably defective in point of spelling, grammar, idiom, punctuation, or division into paragraphs.

1 READING AND COMPOSITION—The candidate will be required to present evidence of a general knowledge of the subject-matter of the prescribed books, and to answer simple questions on the lives of their authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to show the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In the place of a part or the whole of this test, the candidate may present an exercise book, properly certified by his instructor, containing compositions or other written work done in connection with the reading of the books.

The candidate is expected to read intelligently all the books prescribed. He should read them as he reads other books ; he is not expected to know them minutely, but to have freshly in mind their most important parts.

The books set for this part of the examination will be :

1897 : Shakspere's As You Like It ; Defoe's History of the Plague in London ; Irving's Tales of a Traveller ; Hawthorne's Twice Told Tales ; Longfellow's Evangeline ; George Eliot's Silas Marner.

1898 : Milton's Paradise Lost, Books I and II ; Pope's Iliad, Books I and XXII ; The Sir Roger de Coverley Papers in the Spectator ; Goldsmith's Vicar of Wakefield ; Coleridge's Ancient Mariner ; Southey's Life of Nelson ; Carlyle's Essay on Burns ; Lowell's Vision of Sir Launfal ; Hawthorne's House of the Seven Gables.

1899: Dryden's Palamon and Arcite; Pope's Iliad, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in the Spectator; Goldsmith's Vicar of Wakefield; Coleridge's Ancient Mariner; De Quincey's Flight of a Tartar Tribe; Cooper's Last of the Mohicans; Lowell's Vision of Sir Launfal; Hawthorne's House of the Seven Gables.

2 STUDY AND COMPOSITION—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon subject-matter, literary form, and grammatical and logical structure.

In connection with the reading and study of the required books, parallel or subsidiary reading should be encouraged, and a considerable amount of English poetry should be committed to memory. The essentials of English grammar should not be neglected in preparatory study.

The books set for this part of the examination will be:

1897: Shakspere's Merchant of Venice; Burke's Speech on Conciliation with America; Scott's Marmion; Macaulay's Life of Samuel Johnson.

1898: Shakspere's Macbeth; Burke's Speech on Conciliation with America; De Quincey's Flight of a Tartar Tribe; Tennyson's Princess.

1899: Shakspere's Macbeth; Milton's Paradise Lost, Books I and II; Burke's Speech on Conciliation with America; Carlyle's Essay on Burns.

French:

The elements of French grammar.

The ability to read easy French, such as Rambaud's Petite Histoire de la Civilisation Française.

The admission examination in French is divided into two parts designed to test, respectively (1st), the ability of the applicant to read at sight French prose of ordinary difficulty; (2d), his knowledge of elementary grammar.

The ability to read ordinary French prose will be acquired, it is believed, by the reading, in addition to the study of Grammar, of three hundred or more 12mo pages of French. It is recommended that the reading be divided between historical narrative and popular works on science, including the names of most of the articles in daily use; a few very simple descriptive passages may also be included. Although no work is prescribed, the attention of teachers in preparatory schools is called to Alfred Rambaud's Petite Histoire de la Civilisation Française (Paris, A. Colin), and Louis Figuier's Les Grandes Inventions (Paris, Hachette).

By knowledge of elementary grammar is meant knowledge of the paradigms, including the four conjugations of regular verbs, as well as the most frequently used irregular verbs and those belonging to the same classes as *sentir*, *paraître*, *craindre*, etc.; knowledge of elementary syntax, including the place of personal pronouns when used as direct or indirect objects. This knowledge may be tested as well by translation in French of very simple English sentences as by direct questioning.

The following grammatical nomenclature will be adhered to on the examination papers:—Article: definite, indefinite, and partitive. Noun: common, proper. Adjective: qualifying and determinative, the latter including

demonstrative, possessive, numeral, indefinite, and interrogative. Pronoun : personal, demonstrative, possessive, indefinite, relative, and interrogative. Verbs : auxiliary, regular, irregular, and impersonal ; active and passive ; transitive and intransitive. Adverbs of quantity, time, place, and manner. Prepositions. Conjunctions. Interjections. For the moods and tenses of verbs the following will be adhered to : Indicative : simple tenses—present, imperfect, future, past definite or preterite ; compound tenses—past indefinite, pluperfect, future anterior, past anterior. Subjunctive : simple tenses—present, imperfect ; compound tenses—past, pluperfect. Conditional : present, past. Imperative : present, past. Infinitive : present, past. Participle : present, past.

The preparation for the examination, if spread over two years, ought to occupy no less than three weekly recitations of one hour each ; good results might be obtained in one year with daily recitations of forty-five minutes each.

The teachers in preparatory schools will greatly help the work of the school if they will bear in mind that definite knowledge is what is required, and not merely acquaintance with the forms of the language. A firm grasp of the most important rules and most constant forms will be found much more useful than the knowledge of some curious exception. Pronunciation, although it cannot be tested at the entrance examination, which is wholly in writing, must not be neglected. Applicants ought to be able to read aloud intelligibly what they are expected to be able to translate.

The use of good English is expected on the part of the candidates in their examination books, whether in answers to direct questions or in translations from French to English.

Only candidates coming for their *full* or *final* entrance examination can present French. It cannot be presented in the *preliminary* examination.

The object of the admission requirement in French is to secure for the students in the professional schools ability to use readily French authorities on the subjects taught in the schools. Scientific works in French will have to be read wholly or in part by every student from the first year on.

German :

The elements of German Grammar.

The ability to read easy German, such as Andersen's or Grimm's Märchen.

The object of the entrance examination in German is to determine whether the candidate has a sufficient knowledge of grammar, vocabulary, and idiom, to read easy German prose at sight. Hauff's and Grimm's Märchen are suggested merely to indicate the grade of work ; any easy stories or plays can be used in preparation with equally good results.

An adequate preparation for this examination ought to extend over two years, with three recitations a week, at the ordinary pace of school work.

Instruction in grammar should be thorough with regard to the ordinary paradigms and every-day constructions ; and the ordinary connective words —auxiliaries, prepositions, conjunctions, etc.—should be learned early and thoroughly. But grammar-drill should, after the first introductory lesson, follow rather than precede abundant practice in reading. Pupils should prepare lessons of suitable length from the text, and be held to strict account, not

only for the vocabulary, but also for the grammatical points in the lesson. At least 100 pages should be covered in this careful way in the course of preparation. Besides this kind of work, the pupils should have daily practice in translation at sight, and should read in that way not less than 200 pages.

It is recommended that the required preparation of German as set forth above should be supplemented by the reading of Gore's German Science Reader.

History:

On the equivalent of Johnston's History of the United States.

Freehand Drawing: For candidates for admission to the School of Architecture.

Including the ability

(*a*) to draw from dictation a simple geometrical form or pattern, such as a circle inscribed in a square and enclosing a six-leaved rosette;

(*b*) to copy from an outline print a piece of conventional ornament, such as an acanthus leaf, an anthemion, or a "water-leaf" moulding; slightly enlarging or reducing the scale of the original. Accuracy of proportion and a right procedure in the execution are considered of greater importance than fineness of line.

Freehand Drawing: For candidates for admission to the other schools.

Including the ability to sketch, both in outline and with proper shading, ordinary objects, such as a house, a simple piece of machinery, a piece of flat ornament from a copy, a group of geometrical solids. Each applicant must execute the required drawings in the presence of the examining officer. No certificate of drawings made elsewhere is accepted.

7 Entrance examinations will be held at the University, and for the convenience of candidates for admission residing at a distance from New York, at other principal cities, on Wednesday June 9th, 1897, and days following, and on Monday, September 27th, 1897, and days following, and, by permission of the faculty on suitable application, at any time during the session.

Examinations for entrance at other cities will be held by the following gentlemen:

Belmont, California, by W. T. REID, A.M., *Head Master of the Belmont School.*
Charleston, South Carolina, by P. E. CHAZAL, A.B., E.M.
Chicago, Illinois, by E. G. BARRATT, C.E.
Cleveland, Ohio, by R. F. JOPLING, E.M.
Concord, New Hampshire, by C. S. KNOX, A.M.
Denver, Colorado, by T. B. STEARNS, E.M.
St. Louis, Missouri, by W. B. POTTER, A.M., E.M.
Salt Lake City, Utah, by R. H. TERHUNE, E.M.

8 The applicant may present himself in a portion of the subjects in June, and complete his examinations in September of the same year. But no examination for admission will be allowed to stand to the credit of an applicant for a period longer than sixteen months.

Preliminary Examinations

9 An applicant duly enrolled, who has filed the required certificate from his principal teacher, may, at the appointed examination time in May or June of the year preceding his admission into the first class, but not at any other time, be examined on certain portions of the foregoing subjects. Such an applicant may offer at the preliminary examination all subjects required for admission *except*

Algebra (*b*).
Geometry (*b*).
Trigonometry.
French.
German.
English, Study and Composition.

Diplomas and Certificates in Lieu of Examination

10 Diplomas and certificates of colleges and schools of science will be accepted, for the ground they cover, in lieu of examination, *if satisfactory to the examining officers*. Each examining officer decides the question for his special department. No certificates in lieu of examinations will be accepted, except those of degree-granting institutions, including the Regents of the University of the State of New York.

Admission and Conditions

11 The Committee on Admissions and Examinations will decide, and report to the Dean, within twelve days after the conclusion of the examinations, those candidates who have been admitted, those who have been admitted conditionally, and those who have been rejected.

12 Students deficient in minor studies may be admitted conditionally; each case being considered on its merits by the Committee on Admissions and Examinations. Students admitted conditionally at the beginning of the academic year must satisfy all conditions in Mathematics within three months, and other conditions within a year or at such time as may be determined by the Committee on Admissions and Examinations. Students who fail to satisfy their entrance conditions within the time specified may be dropped from the roll.

13 The Committee on Admissions and Examinations have jurisdiction over all questions arising under the rules relating to entrance examinations.

Advanced Standing

14 Candidates for advanced standing must pass satisfactory examinations upon the studies stated in Section 6, and also upon those pursued by the class up to the time at which they propose to enter.

15 No candidates are admitted later in the course than the beginning of the fourth year.

Attendance

16 Prompt attendance is required upon all exercises. Each instance of tardiness will be counted as half an absence.

17 Attendance during all the hours specified on the scheme of attendance adopted by the faculty is obligatory.

18 Any student who shall have been absent from more than ten per cent. of the exercises in any subject, shall not be entitled to examination in that subject.

19 Every student is expected and required to keep an account of his absences, and should he exceed the limit allowed in any course, he must present to the Dean, during the week preceding the stated examination, satisfactory explanation of all his absences, or be debarred from the examination.

20 Any student who, being present on the grounds, shall absent himself from any exercise, or shall leave the grounds during the hours at which his attendance is due, shall be liable to removal from the roll of his class.

21 Students are required to attend all the exercises and pass all the examinations of the class and course to which they belong unless specially excused by vote of the faculty.

22 By special permission of the faculty, students may attend exercises not required in the class or course to which they belong, provided that such attendance does not interfere with the required exercises of their class and course. Such students are held to the same rules of attendance and examination in the extra studies as in the required studies of their class and course.

23 Students who obtain on examination in advance a mark of *eight* or more in any subject may be excused from attendance upon the exercises in that subject. This rule does not apply to students who repeat the studies of any year under by-law 27. Reports of such standing must be filed with the Dean of the faculty, who alone is authorized to excuse students from attendance.

24 Any student who shall have passed a satisfactory examination in Columbia College in any study forming a part of one of the regular courses under the Faculty of Applied Science, will not be required to pursue that study.

Examinations

25 Examinations will be held at the end of the first term (semi-annual), or at the end of the year (annual), on all subjects taught.

26 Any student found guilty of fraudulent practices at examination will be summarily dismissed.

27 Any student who shall fail to pass in any of his studies at the regular semi-annual or annual examination, may present himself for a second examination at the end of the summer vacation ; failing to pass in the second examination, his name will be dropped from the roll of his class and he will not be permitted to attend any of the exercises of said class, except by special permission ; but he may enter the succeeding class and pursue all of its exercises and present himself with that class for examination in all subjects ; upon failing a third time in any study, his name will be dropped from the roll.

28 Absence from the regular semi-annual or annual examination, unless excused by the faculty, will be counted a failure to pass that examination. This rule shall apply to examinations for delinquents held at the end of the summer vacation.

29 Unless for reasons of weight special examinations will not be granted to students who fail at the regular examinations ; but they may present themselves at the time of the next regular examinations.

30 Examinations at times other than here designated are not held except by order of the faculty.

31 Deficient students of the first, second, or third years will not be allowed to attend any summer school without special permission of the faculty.

32 No student is entitled to a degree until he has passed satisfactory examinations in all the studies of the course in which he desires to graduate.

33 When a student fails to receive his degree with his class, and returns at some later period to present himself for examination for the same, he will be required to comply with all the requirements at the later date, and the same rule shall apply to students who have received one degree and make application for another.

Standing

34 Every officer keeps a record of the scholarship of each student.

35 The maximum mark is ten in each department, and six is required to pass a student.

Memoirs and Summer Work

36 During the vacations following the close of each year, memoirs on subjects, which will be assigned, are required of students as follows: of students in the courses of Electrical Engineering, of Analytical and Applied Chemistry, and of Architecture, at the close of each year. The time specified for the completion and handing in of memoirs in chemistry and electrical engineering is November 1st of each year ; for other memoirs and summer work the time specified is the second Monday in October.

37 Students of the second, third, and fourth classes who fail to hand in the memoirs, drawings, and other summer work required of them under the rules by a specified time, shall not be permitted to hand them in until the beginning of the next academic year, and failing in this latter requirement they shall be dropped from the roll of the class. This requirement may be waived, for reasons of weight, in the case of students of the fourth class.

Special Students

38 Graduates of the School of Mines, the School of Chemistry, the School of Engineering, and the School of Architecture, and of other institutions of like grade and standing, may pursue any subjects taught in the schools for which they are properly qualified.

39 Permission to pursue special courses is sometimes given, for reasons of weight, to persons of mature age who are not graduates, but special students are not desired in the regular professional courses.

The Laboratories and Drawing Academies

40 No student will be allowed in a laboratory or drawing academy at a time when his attendance there is not due. During hours assigned for practical work in each of the laboratories, and in the drawing academies, the attendance of students will be required. A record of the daily attendance and of the progress of each student will be kept by the officer in charge.

41 The attendance of students of the first and second years in the drawing-room at such times as they are not engaged at lectures, between 9.30 A.M. and 1.30 P.M., is obligatory for students in engineering and architecture, for such hours and times as may be selected by the Professors of Engineering and Architecture.

Order

42 Good order and gentlemanly deportment are required of all students, as a condition of attendance.

43 Smoking is prohibited in the University buildings.

NOTE.—To render unnecessary many inquiries it is here stated that there are no dormitories attached to the University at present.

Summer Schools and Excursions

During the session, the students may visit the different machine shops, electrical and metallurgical establishments, and chemical works of the city and its environs.

Class in Mechanical Engineering—During the third year students in the courses of engineering may join a volunteer class in practical mechanical engineering under the supervision of the professor of mechanical engineering.

Summer School in Surveying—During the latter part of the vacations following the close of the first and second years, students in the courses of mining, civil and sanitary engineering, and metallurgy, are required to join the summer school in surveying under the direction of the instructor in civil engineering.

During the latter part of the vacation following the close of the third year, students in the courses of mining and civil engineering are required to attend a class in railroad surveying for a period of four weeks. The students in the mining engineering course have the option of attending this class in the vacation following the close of the second year. This class is under the direction of the instructor in civil engineering.

Summer School in Geodesy—During the vacation following the close of the third year, students in the courses of civil and sanitary engineering are required to attend a summer school in geodesy for six weeks. The class is under the supervision of the professor of astronomy.

Summer School in Mining—During the vacation following the close of the third year, students in the courses of mining engineering and metallurgy are required to visit the mines and engage in actual work or study under the superintendence of the adjunct professor of mining. This summer school is open to second-year students, *without conditions*, as an optional course.

Summer School in Geology—In connection with the summer school in practical mining, at least one week is devoted to practical field geology, for the students in the courses of mining engineering and metallurgy. During the academic year, excursions are offered to points of geological interest near New York, on all Saturdays and holidays of the fall and spring. Few other localities afford so extensive and so accessible exposures as the vicinity of New York.

Part II

ELECTIVE COURSES OPEN TO SENIORS AND SPECIALS IN THE COLLEGE

Members of the senior class and specials in the College are admitted to all the studies of the first year in the courses under the Faculty of Applied Science and to such other courses as may be allowed by the Dean of the College with the consent of the head of the department concerned.

UNIVERSITY COURSES FOR THE DEGREES OF MASTER OF ARTS AND DOCTOR OF PHILOSOPHY, AND SPECIAL COURSES

For these courses see statements of Departments of Instruction as follows:

Architecture, page 44
Chemistry, page 52
Civil Engineering, page 63
Electrical Engineering, page 67
Mechanical Engineering, page 70
Mining, page 105

APPARATUS SUPPLIES

1. Students may purchase apparatus of any of the dealers in the city.

2. To avoid inconvenience and expense to the students, and to secure a proper selection, the Chemical department undertakes, at considerable trouble and expense, to lend apparatus on the following conditions:

(*a*) Each student engaged in laboratory work who draws apparatus must make a deposit of forty dollars ($40) with the bursar, which deposit will be credited to him on the ledger. In the case of excessive draughts of apparatus an additional deposit may be required.

(*b*) Each student shall be entitled, on presenting his receipt at the apparatus room, to draw the regular set of apparatus for qualitative, quantitative, or organic analysis, for assaying, for microscopy, or for bacteriology, on account of his deposit, and from time to time to obtain ordinary articles which he may need, and these will be charged to him. At the end of the year he will be credited with those articles which he returns in good order, and the value of those which he has injured or broken will be deducted from his deposit.

(*c*) The apparatus room will be open for issuing apparatus every day at convenient hours.

(*d*) No charge is made for ordinary chemicals.

REGISTER OF STUDENTS

ABBREVIATIONS

(A).....Course in Architecture
(C).....Course in Analytical and Applied Chemistry
(C E).....Course in Civil Engineering
(E E).....Course in Electrical Engineering
(M).....Course in Metallurgy
(M E).....Course in Mining Engineering

(For home and city address in full, see Directory of Students.)

UNDERGRADUATE COURSES

FOURTH YEAR CLASS

Adams, Ernest Kempton (E E)—Ph.B. *Yale*.....New York
Barnes, Walter Clymer (E E).....New Jersey
Bates, Putnam Asbury (E E).....New York
Baxter, David Elder (C E).....New York
Bellman, John Jacob (E E).....New York
Bishop, Reed Raymond (E E).....New York
Boehm, George Abraham (A).....New York
Boerner, Emil Christian, Jr. (E E).....New York
Brackett, George Sylvester (M E).....Maryland
Burroughs, Harris Sutton (E E).....New York
Campbell, Alexander James (M E)—Ph.B. *Yale*..... California
Clark, Charles Martin (E E).....New York
Clark, Josiah Huntoon (M E)..... .....New Jersey
Collins, Clarence Lyman, 2d (E E)—Ph.B. *Yale*.....Connecticut
Congdon, Herbert Wheaton (A).....New York
Coykendall, Frederick (C E)—A.B. *Columbia*.....New York
Crampton, Stewart Hooker (E E)..... .....New York
De Coppet, Theakston (A).....New York
Farmer, Alexander Simpson (C E).....New York
Fulton, Charles Herman (M E).....New York
Gill, Abner Winthrop (C E)—A.B. *Amherst*.....New Jersey
Goodridge, John Wesley (C E).....New York
Gotthelf, August Henry (C)..... .....New York

Haldy, Frederick George (E E)—B.S. *Case School of Applied Science*. . . Ohio
Herz, Henry (A).....New Jersey
Hildburgh, Leo Walter (E E).....New York
Holbrook, Frederick Montgomery (E E). .....New York
Hood, Duncan Norbert (M E)—*West Point*.....New York
Humphreys, James Barnes (E E).....New York
Jones, James Ellwood (E E)..... ....West Virginia
Kilian, William George (A).....New York
Koch, Richard (E E).....New York
Kurtz, Edward Lawrence (E E)—E.M. *Columbia* .....Pennsylvania
Loewenthal, Max (E E).....New York
McLean, John Malcolm (E E)..... ....New York
Maben, John Campbell, Jr. (M E).....New York
MacMullen, Charles William (E E).....New York
Madden, John Henry (C E).....New York
Magalhaes, George Willard (E E).....New York
Manheims, Leo Raphael (E E).....New York
O'Reardon, Ignatius (C E)..... .....New York
Prosser, Herman Alfred (E E)—E.M. *Columbia*.....New York
Ralph, Herman Philip (C E).....New York
Rappold, George Washington (A).....New York
Riederer, Emil Justus (C).....New York
Rogers, Charles Edward (C E).....New York
Sayres, John Huntting (C E).....New York
Schimmel, John, Jr. (C E)—Mech. Eng. *Stevens Inst*.....New Jersey
Schlecht, Walter William (C E).....New York
Smith, Oscar Bloodgood, Jr. (A).....New Jersey
Stander, Isaac (C E).....New York
Stout, Joseph Suydam, Jr. (E E)—A.B. *Columbia*.....New York
Taylor, Alfred Samuel Guido (A)—A.B. *Harvard*.....New York
Thomas, William Shepard (M E)—C.E. *Rensselaer Pol. Inst*.....California
Tibbals, Rowland Gilbert (C E).....New York
Van Deventer, Christopher (E E) ....Tennessee
Van Dyck, William Van Bergen (E E)—B.S. *Rutgers*.....New Jersey
Waldenberger, Charles Adolph (C).....New York
White, Lazarus (C E).....New York

Fourth Year Class..... 59

THIRD YEAR CLASS

Anthon, George Christian (E E)..... .....New York
Arendt, Norton (E E).....New York
Beadel, Henry Ludlow (A).....New York
Beatty, Alfred Chester (M E).....New York
Bennett, George Lewis (C E).....New York
Bentley, Wray Annin (C).....New York
Bird, Harrison Kerr (E E).....New York
Bostwick, William Arthur (M).....New York

Brown, Alexander Morrison (M E).....New York
Buck, Victor Buchanan, Jr. (M).....Missouri
Burns, William Gibson (E E).....New York
Burnside, Charlee Howard (A)—B.S. *Penn*.....Iowa
Caswell, Kenneth Lincoln (A).....New York
Chatain, Henri George Francis James (E E).....New York
Daly, Edwin Howell (E E).....New York
Davidson, William Stewart (M E).....Quebec
Dunn, Arthur Diamond (E E).....New York
Eckerson, Charles Hammond (M E).....New Jersey
Ferguson, Garwood (C E).....New Jersey
Ferguson, Samuel (E E)—B.S. *Trinity*.....Connecticut
Foote, Emerson, Jr. (E E).....New York
Force, Dexter Newell, Jr. (E E).....New Jersey
Gallatin, Albert Rolaz (E E)—A.B. *Columbia*.....New York
Geppert, Richard (M E).....New Jersey
Goldstein, Edwin Sydney (A).....Ohio
Goodman, Joseph (C E).....New York
Gumaer, Alfred Hermann (A).....New Jersey
Gunn, George Bain (C E).....New Jersey
Haight, Charles Sidney (A).....New York
Hall, Harold Newman (A).....New York
Haskell, Gouverneur Morris (E E).....New Jersey
Hill, Rowland Francis, Jr. (M E).....New York
Hodgson, Eugene Helms (C).....New York
How, Richard Willis, Jr. (C E).....New York
Jones, William Phelps (E E).....New York
Joseph, Theodore Harold (E E).....New York
Judson, Hanford Chase (E E).....New York
Kaufmann, Edwin (A).....New York
Kingsbury, Kenneth Raleigh (M E).....New Jersey
Knap, Joseph Day (C E).....New York
Knox, Newton Booth (M E)—A.B. *Stanford*.....California
Krumb, Henry (M E).....New York
Lane, Russell (C).....New Jersey
Le Prince, Joseph Albert Augustin (C E).....New York
Levine, Edmund Julius (C).....New York
Lewis, Clarence MacKenzie (C E).....New York
Lighthipe, William Wilson (E E).....New York
Lobo, Gustavo (E E).....New York
Lowther, Christopher Meyer (E E).....Connecticut
Lucas, George Latimore (C E).....New York
Lydecker, Irving Smith (M E).....New York
McClelland, James Bruce (A).....New York
McClure, William James (E E).....New York
McLellan, Hugh (A).....New York
Magruder, Hugh Sisson (A)—A.B. *Johns Hopkins*.....Maryland

Martin, Lucius Trowbridge (E E).....New York
Mason, Francis (C E)—A.B. *Harvard*.....New York
Menline, Isaac (C E).....New York
Newman, Mortimer Lewis (E E).....New York
Pattberg, Otto Frederick (M E).....New Jersey
Peck, Thomas Bloodgood, Jr. (E E).....New York
Perkins, Seymour (C E).....New York
Raisman, Aaron Israel (C E).....New Jersey
Rapaport, Joseph (E E).....New York
Raymond, Max (C E).....New York
Ropes, William (C E).....New York
Ros, Juan Pablo (M E)—A.B. *Univ. of Havana*.....Cuba
Saunders, George Crosby (C E)—B.S., *N. Y. City College*.....New York
Sessinghaus, Gustavus (M E).....Missouri
Smith, William Allen, Jr. (M E).....New York
Stillwell, Albert Gladding (C).....New York
Sutro, Harry Herbert (C).....New York
Tatlock, James Lloyd (C E).....New York
Titcomb, Harold Abbot (M E)—A.B. *Shurtleff*.....New York
Trapote, Ramiro (C E).....Spain
Tudor, William, Jr. (M E)—A.B. *Harvard*.....Massachusetts
Van Voorhis, Bartow White, 2d (E E).....New York
Vredenburgh, Watson, Jr. (C E).....New York
Wolff, Hans Hermann (C E).....New York
Third Year Class..... 79

SECOND YEAR CLASS

Aylmer-Small, Charles Sidney (E E).....New York
Baumann, Albert Philip (M E).....New York
Bavendam, Ahrend, Jr. (E E).....New York
Beck, Oscar Charles (C).....New York
Belden, William Allen (E E).....New York
Blondel, Theodore, Jr. (A).....New York
Blum, Edward (A).....New York
Boyd, John Dalzell (A).....New York
Brown, Herbert Doty (C E)—A.B. *Columbia*.....New York
Cabot, John, Jr. (M E).....New York
Cairns, Bayard Snowden (A)—A.B., *N. Y. City College*.....New York
Carpenter, Henry Cannon (E E).....New York
Chapman, Howard (A).....New York
Chase, John Hildreth (M E)—B.S. *Amherst*.....Vermont
Chibas, Louis Floro (M E)—A.B. *Santiago de Cuba*.....Cuba
Coffin, Tristram Roberts (C E).....New York
Cogan, Henry Manning (E E).....New York
Cohn, Simeon Edward (E E).....New York
Conover, John Thompson (E E).....New York

Crawford, Henry Erastus (M E)....New York
Delson, Isadore (C E)....New York
Dexter, Nathaniel Wheaton (A)—A.B. *Brown*....Rhode Island
Dickerson, Frank Secor (E E)....New York
Dieterich, Alfred Elliot (C E)....New York
Durham, Leicester (C E)....New York
Eccles, David Charles (C)....New York
Ehrenreich, James Jacob (E E)....New York
Emerson, William (A)—A.B. *Harvard*....New York
Entz, George Gilbert (A)....New York
Falk, Myron Samuel (C E)....New York
Fechheimer, Abraham Lincoln (A)....Ohio
Fisher, Henry (C)—B.S., *N. Y. City College*....New York
Fliess, Robert Anton (E E)....New York
Frank, Augustus Alphonsus (E E)....New York
Godwin, Philander Hanford (C E)....New York
Hastings, Charles Fanning (C E)....New York
Heike, Rudolph Ernest (C)....New Jersey
Hooper, Henry Northey, Jr. (A)....New York
Hudson, Percy Kierstead (M E)....New York
Hulbert, Charles Southard (E E)....New York
Imlach, William Bertram (C)....New York
Jung, Andrew Norwood (E E)....New York
Kipp, Burdett (C E)....New York
Levi, Julian Clarence (A)—A.B. *Columbia*....New York
Lichtenstein, Howard (E E)....New York
Livingston, Johnson, Jr. (E E)....New York
Longacre, Orleans, Jr. (M E)....New York
Louis, Charles Anstadd (M E)....New York
McCulloch, Robert Austen (A)—A. B. *Columbia*....New York
McIntyre, Henry Knox (E E)....New York
McLain, Ralph Clapp (E E)....New York
Machen, Charles Hudson (E E)....New York
Machen, Henry Bennett (C E)....New York
Mehrbach, William (C)....New York
Michel, Louis Ewald (E E)....New Jersey
Morris, Monson (E E)....New York
Mortimer, Henry Coit, Jr. (E E)....New York
Müller, Julius (E E)....New York
Murphy, George Robert (E E)—A.B. *St. Francis Xavier*....New Jersey
O'Connor, James William (A)....New York
O'Connor, William Aloysius (A)....New York
Orner, George Darmon (E E)....New York
Otto, Charles Ludwig (A)....New York
Parker, Asa Warren, Jr. (M E)—A.B. *Columbia*....New York
Perkins, Henry Augustus (E E)—A.B *Yale*....Connecticut
Pfeiffer, Clarendon Henry (E E)....New York

Reiss, Edgar Poe (E E).....New York
Riter, Levi Evans, Jr. (M E).....Utah
Rogers, Edward Washburn (E E).....New York
Scudder, Hewlett, Jr. (E E)—A.B. *Yale*.....New York
Seely, Walter (M E).....New York
Seward, George Oulton (E E).....New Jersey
Simonson, Lawrence Mason (C E).....New York
Slaven, Ralph Edward (E E).....New York
Stratford, Thomas Alexander (C E).....New York
Van Wagenen, Hubert, Jr. (A).....New York
Wagner, Otto (M E).....New Jersey
Ware, Arthur (A).....New York
Weekes, Frederick Robert (M E).....New York
Weinstein, Maximilian (C E).....New York
Williams, John Townsend (A).....New York

Second Year Class.....81

FIRST YEAR CLASS

Abramovich, Oscar (C E).....New York
Acton, Harry Wagner (E E).....Connecticut
Allen, Cleveland (C E).....New York
Ambler, Nathan Babcock (E E).....New York
Armstrong, Edward Maitland (A).....New York
Bard, Ernest Robinson (E E).....New York
Bard, Sidney White (E E).....New York
Bartberger, Edward William (A).....Pennsylvania
Bates, Louis William (E E).....New York
Baumgarten, William Edward (A).....New York
Beal, Arthur Washington (A).....New York
Bell, Clarence Francis (M E).....New York
Benedict, Eli (A).....New York
Bigelow, Richard (E E).....New Jersey
Bishop, Ogden Mills (A).....New York
Blodgett, Henry William (C E).....Missouri
Boehm, Henry Abraham (A).....New York
Briggs, Walter Preston (E E).....New York
Brower, Frederick Weber, Jr. (A).....New York
Brown, Caxton (E E).....New York
Brown, Hugh Auchincloss (E E).....New Jersey
Bryant, Mortimer Drake (E E).....New York
Bryant, William Bernard (E E).....New York
Buckingham, Tracy Sturges (M E).....New York
Burns, Dawson Jabez (E E).....New York
Cameron, Walter Scott (C)—A.B., *N. Y. City College*.....New York
Campbell, Edward Flint (C E).....New York
Casamajor, Walter (C).....New York
Cassard, William John, Jr. (E E).....New York

Clinch, Edward Sears, Jr. (E E).....New York
Corbin, Irving (E E).....New York
Cowperthwait, Frederic Nichols (A).....New York
Cox, William Townsend (M E).....New Jersey
Curry, Robert (A).....New York
Darrach, Bradford, Jr. (C E).....New Jersey
Davis, Lynley Seymour (A).....New York
Delano, William Adams (A)—A.B. *Yale*.....New York
De Mille, William Churchill (E E).....New Jersey
Denny, Robert Campbell (C E).....New Jersey
Dickinson, Harold Thomas (M E).....New York
Dorfman, Walter (C).....New York
Dusenbury, Arthur Newcomb (E E).....New York
Edson, Herman Aldrich (E E).....New York
Erdal, Oscar Wilson (M E).....South African Republic
Fearing, William Henry, Jr. (C E).....New York
Feldman, Max (C E).....New York
Fisher, Robert Mulford (M E).....New York
Ford, Harry Clifford (C E).....New York
Foster, Oscar Riker (M).....New York
Fuente, Jesus de la (M E).....Mexico
Goodenough, Robert Judson (C).....New York
Goodwillie, Robert Hogue (E E).....New York
Grace, William Russell, Jr. (C E).....New York
Gramm, Frederick Emil (A).....New York
Green, Robert Corbould (E E).....New York
Greene, Myron Evans (E E).....New York
Gregg, Harry Westervelt (E E).....New York
Griffiths, William James, Jr. (E E).....New York
Haar, Henry Philip (E E).....New York
Hawkins, Stephen Olney (A).....New York
Hayt, Robert Olcott (C E).....New York
Heidelberg, Max Gustave (A).....New York
Heineken, William Price (E E).....New York
Henderson, Henry Howison (C E).....New York
Hermann, Bernhard Frederic (E E).....New York
Hildburgh, Sidney Cornelius (C E).....New York
Holbrook, John Swift (A)—A.B. *Harvard*.....Connecticut
Hooper, Harris Greenwood (E E).....New York
Immediato, Gerardo (C E).....New Jersey
James, Marshall Thomas (A).....New Jersey
Jessup, Warren Canfield (C E).....Georgia
Josephson, Edgar (C).....New York
Kafka, Hugh, Jr. (A).....New York
Kaufmann, Arthur (A).....New York
Kebler, John Leonard (E E).....New Jersey
Kellogg, Frederic Freeman (E E).....New York

Kneeland, Frederick Revell (C)..... New York
Knight, Harold Bartlett (A)..... Iowa
Koscherak, Ferdinand Eli (E E)..... New York
Lacey, Richard Austen (M E)..... New York
Lang, Eugene Jerome (A)..... New York
Lay, Charles Downing (A)..... New York
LeCount, Llewellyn (C E)..... New York
Lefferts, Franklin Baker (A)..... New York
LePrince, Louis Adolphe Whitley (C)..... New York
Lewis, Meyer Henry (C E)..... New York
Lindenmeyr, Ludwig (A)..... New York
Lindsay, William Godson (C)..... New York
Lockward, Lynn Grover (A)..... New Jersey
Lockwood, Frank Thornton (A)..... New Jersey
Loney, Frederick Roosevelt (A)..... New York
Loudon, Howard Carlisle (A)..... New York
McClelland, James Farley (E E)..... New York
McGuire, Milton Howard (A)..... New York
McLintock, Archibald (M E)..... New York
Madan, Julian Appleton (C)..... New York
Magnus, Benjamin (E E)..... New York
Mainzer, Herbert Richard (A)..... New York
Martin, John Sayre, Jr. (E E)..... New York
Meeks, Reginald (E E)..... New York
Meissner, William Christen (E E)..... New York
Moffat, Edward Stuart, Jr. (M)..... Pennsylvania
Moran, William Edgar (A)..... New York
Morrill, William Charles (E E)..... New York
Moulton, Robert Hurt (A)..... Tennessee
Nelson, Francis Augustus (A)..... New York
Oakley, Ainsley Cornell (E E)..... New York
Oakley, Walton Livingston (E E)..... New York
Oddie, Harold Hoyle (C E)..... New York
Pitt, Rafford (C E)..... New York
Plonsky, Samuel Edward (A)—A.B., *N. Y. City College*..... New York
Potter, Robert Knight (A)..... New York
Read, Clark Potter (E E)..... New York
Reiley, Robert Joseph (A)..... New York
Reilly, Joseph Aloysis (C E)..... New York
Rionda, Manuel Enrique (E E)..... New York
Ross, Herbert Weed (E E)..... New Jersey
Rossi, Louis Mansfield (M E)..... New Jersey
Ryker, Henry Benson (E E)..... New York
Satterlee, Edward Lansing (A)..... New York
Schanck, William Hunt (A)..... New York
Scherrer, Josef Anton (A)..... Indiana
Schlegel, John William (C)..... New York

Schroeder, Henry (E E).....New York
Simpson, William Thornton (E E).....New York
Sinsheimer, Alexander Leopold (A).....New York
Smith, Burnett (C).....New York
Smith, Byron Weed (E E).....New York
Smith, Frank Gerard (E E).....New York
Smith, Leonard Bacon, Jr. (E E).....New York
Spiller, Robert Lawrence (C E).....New York
Steinback, Gustav Erwin (A).....New York
Strauss, Lester (M E).....New York
Thompson, Moreton Reginald (E E).....New York
Tiemann, Hugh Philip (C).....New York
Tilt, Benjamin Bricklyn (E E).....New York
Underhill, Arthur Dudley (C).....New York
Van Deerlin, Reginald Wellesley (C E).....New York
Vom Baur, Carl Hans (E E).....New York
Waldo, Rhinelander (E E).....New York
Walsh, Louis Angelo (A).....Connecticut
Waterman, Harry Simonds (C E).....New York
Wessells, Eugene Herbert (E E).....New York
Weston, Edward Faraday (E E).....New Jersey
Williams, Alexander Shives (C E).....New York
Wood, Norton Elsworth (A).....New York
First Year Class.....146

SPECIAL STUDENTS

Anderson, Walter Frederick (A).....New Jersey
Barnard, Lawrence Llewellyn (A)—A.B. *Otterbein*.....Ohio
Beekman, William Fenwick (A)—A.B. *Columbia*.....New York
Chamberlain, Julian Ingersoll (A)—A.B. *Yale*.....New York
Crane, Clinton Hoadley (C E)—A.B. *Harvard*.....New York
Daley, Dennis Webster (A).....West Virginia
Deremer, Joseph Bell (A).....New Jersey
Elliott, Robert Huger (A).....Louisiana
Forman, Edward Rodney (A).....New York
Hall, Harry Stewart (A).....New York
Jones, Lamar Quintus (A).....Georgia
Merry, Henry Emil (A).....New Jersey
Miller, Guy Hiram (C E)—C.E. *Union*.....New York
Parsons, William Edward (A)—A.B. *Yale*.....Ohio
Ruppert, George (A).....New York
Skongaard, Jens Christian Lund (E E)
Mech. Eng. *Polytechnikum*, Dresden.....New York
Watkins, Albert Lent (C E).....New York
Williams, Robert Edward (A).....New York
Wilson, David William, Jr. (A)—B.S. *Lehigh*.....New York
Wright, Charles Chevrier (A).....Ohio
Special Students.....20

GRADUATE COURSES FOR THE DEGREES OF MASTER OF ARTS AND DOCTOR OF PHILOSOPHY

Following each student's name are printed in *italics* the subjects pursued by him under the Faculty of Applied Science; if the student is enrolled under another Faculty as well, the name of that Faculty is given in Roman type.

FOR THE DEGREE OF MASTER OF ARTS

NAME — RESIDENCE

Gould, Edward Ludlow ..... New York
Columbia University, C. E. (1891)
Civil Engineering, *Mechanics*, Pure Science

McKim, Alexander Rice ..... New York
Massachussetts Institute of Technology, B.S. (1886)
Architecture, Political Science

Montgomery, Hardman Philips Alan ..... New York
Columbia University, Ph.B. (1896)
Architecture, Pure Science
For Degree of Master of Arts 3

FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Mathews, Charles Thompson ..... New York
Yale College, A.B. (1886), A.M. (1892)
Columbia University, Ph.B. (1889)
Architecture, Philosophy
For Degree of Doctor of Philosophy 1

Total 4

SUMMARY

Undergraduate Courses:		
Fourth Year Class	59	
Third Year Class	79	
Second Year Class	81	
First Year Class	146	
		365
Graduate Courses:		
For Degree of Master of Arts	3	
" " " Doctor of Philosophy	1	
Specials	20	24
Students primarily registered under this Faculty		389
Students from the College taking subjects other than those regularly offered under the Faculty of Applied Science		4
Grand Total		393

SCHOOL OF POLITICAL SCIENCE

The following departments are represented in the Faculty :

POLITICAL ECONOMY AND STATISTICS
FINANCE
ECONOMIC THEORY
SOCIOLOGY
HISTORY
POLITICAL PHILOSOPHY
CONSTITUTIONAL LAW
ADMINISTRATIVE "
INTERNATIONAL "
CRIMINAL "
ROMAN LAW AND COMPARATIVE JURISPRUDENCE

Officers of the Faculty

JOHN W. BURGESS, Ph.D., LL.D. ..... *Dean and ex-officio Member of the University Council*
FRANK J. GOODNOW, LL.D. ..... *Secretary*
RICHMOND MAYO-SMITH, Ph.D. ..... *Elected Delegate to the University Council*

The Faculty

SETH LOW, LL.D., *President*

JOHN W. BURGESS, Ph.D., LL.D., *Professor of Political Science and Constitutional Law*
RICHMOND MAYO-SMITH, Ph.D., *Professor of Political Economy and Social Science*
MUNROE SMITH, A.M., J.U.D., *Professor of Roman Law and Comparative Jurisprudence*
FRANK J. GOODNOW, LL.D., *Professor of Administrative Law*
EDWIN R. A. SELIGMAN, LL.B., Ph.D., *Professor of Political Economy and Finance*
HERBERT L. OSGOOD, Ph.D., *Professor of History*
WILLIAM A. DUNNING, Ph.D., *Professor of History and Political Philosophy*
JOHN BASSETT MOORE, A.B., *Hamilton Fish Professor of International Law and Diplomacy*
FRANKLIN H. GIDDINGS, A.M., *Professor of Sociology*
JOHN B. CLARK, Ph.D., *Professor of Political Economy*
JAMES HARVEY ROBINSON, Ph.D., *Professor of History*
FREDERIC BANCROFT, Ph.D., *Lecturer on American History*
EDMOND KELLY, M.A., *Lecturer on Municipal Politics*

Other Officers

WILLIAM Z. RIPLEY, Ph.D., *Prize Lecturer, 1896–99, on Physical Geography and Ethnology*
GEORGE L. BEER, A.M., *Prize Lecturer, 1894–97, on European History*
WILLIAM R. SHEPHERD, Ph.D., *Prize Lecturer 1896–98*
ARTHUR M. DAY, A.M., *Assistant in Economics*

GENERAL STATEMENT

The Faculty of Political Science has charge of the university courses of study and research in political and social science, including history, economics, and public law.

The School of Political Science was opened on Monday, the fourth day of October, 1880.

The Faculty aims to give a complete general view of all the subjects of public polity, both internal and external, from the threefold point of view of history, law, and philosophy. The prime aim is therefore the development of all the branches of the political and social sciences. The secondary and practical objects :

(*a*) To fit young men for all the political branches of the public service.

(*b*) To give an adequate economic and legal training to those who intend to make journalism their profession.

(*c*) To supplement, by courses in public law and comparative jurisprudence, the instruction in private municipal law offered by the Faculty of Law.

(*d*) To educate teachers of political and social science.

To these ends courses of study are offered of sufficient duration to enable the student not only to attend the lectures and recitations with the professors, but also to consult the most approved treatises upon the political sciences and to study the sources of the same.

Young men who wish to obtain positions in the United States Civil Service—especially in those positions in the Department of State for which special examinations are held—will find it advantageous to follow many of the courses under the Faculty of Political Science. Some of the subjects upon which applicants for these positions are examined are treated very fully in the curriculum of the school. Thus, extended courses of lectures are given on political geography and history, diplomatic history and international law, government, and administration.

The work in economics and sociology falls under three heads, viz. : the university courses of instruction in the various departments of social science, the work in the statistical laboratory, and the "field work," or practical work in connection with the Charity Organization Society, the Brooklyn Bureau of Charities, the University Settlement Society of New York City, and the East Side House. These are fully explained in the detailed circular of the School of Political Science.

ADMISSION AND ATTENDANCE

Admission to the School of Political Science is ordinarily granted to students who have completed the curriculum of some college in good standing at least to the close of the junior year. Other persons of suitable age and attainments may be admitted, to pursue special or partial courses, with the consent of the Dean and of the instructor. The lectures are also open to the public, on payment of an auditor's fee, and with the consent of the Dean and of the instructor. Auditors do not have, and cannot receive, any university recognition whatever. There are no formal examinations for admission. Applications for admission to the School of Political Science are received at any time by the Secretary, but it is generally advisable that they be presented, if possible, at the beginning of the academic year.

Students enrolled either in the General, in the Union, or in the Jewish Theological Seminary, in the City of New York, who may be designated for the privilege by the authorities of those institutions and accepted by the President of Columbia University, are admitted to the courses offered by the Faculty of Political Science free of charge for tuition.

By the terms of an alliance between Columbia University and Teachers College, at Morningside Heights, duly qualified students of Teachers College are permitted to enter courses offered by the Faculty of Political Science either as candidates for degrees or as special students.

All of these institutions offer reciprocal privileges to students of Columbia University.

An application for admission may be made by filling out and depositing a registration blank at the office of the Dean of the Faculty of Political Science, or at such other place as may be designated from time to time, for the purpose of registration.

Every student is required to file a list of his studies for the academic year at the time he registers, with the officer in charge of the registration, or within one week thereafter, at the office of the Dean. If he subsequently wishes to make any change in his studies, he must file written notice of his wish at the Dean's office, and must obtain the assent of the Dean.

Immediate written notice must be given to the Dean of any change of address.

Admission to the School of Political Science does not imply admission to candidacy for a degree. The conditions of candidacy for the several degrees are given below :

ADMISSION TO OTHER COURSES

Any duly matriculated university student is at liberty to combine courses of study and investigation under this Faculty with courses offered by the College or by the Faculties of Philosophy, Law, Medicine, Pure Science, and Applied Science without any additional fee.

Undergraduate studies of particular value to students in this school are as follows :

	Hours per week.
Outline of Mediæval History (1st term)	2
Outline of Modern History (2d term)	2
Outline of European History since 1815 (1st term)	2
American History (1st term)	2
Elements of Political Economy (2d term)	2
Economic History (1st term)	2

Among the cognate courses given by the Faculty of Philosophy are :

History of philosophy, 2 hours a week ; ethics, 2 hours a week ; biological anthropology, 2 hours a week ; readings in Gaius and Ulpian, 1 hour a week ; readings in Anglo-Saxon law ; courses in the various modern languages, and others.

FEES

(See page 23.)

CANDIDATES FOR A DEGREE

Students are received as candidates for the degree of Bachelor of Arts, Master of Arts, Master of Laws, or Doctor of Philosophy.

If the applicant is a candidate for a degree, he must file a certificate, sufficent to furnish evidence of his completion of the junior year, or if he holds a degree from any institution, he must file diplomas or certificates sufficient to furnish evidence of such degree or degrees. Blanks for this purpose may be secured at the Dean's office. Certificates of graduation or dismissal from institutions of learning in foreign countries are also accepted. The certificates should be accompanied by catalogues or calendars of the colleges or other institutions of advanced grade at which the student has previously studied, which must be marked so as to show clearly his course of study there. This condition may be dispensed with in the case of those colleges and institutions whose bachelor's degree is recognized by the University Council as a basis for the higher degrees.

Students may present themselves for examination for a degree at any time during the year whenever the requirements as to residence and an essay or dissertation have been complied with.

COURSE OF INSTRUCTION

For the courses offered in 1896–7 see departmental statements, as below. For more detailed account of the courses and for the tender of 1897–8, application should be made for circular of the School of Political Science.

History and Political Philosophy, page 87
Public Law and Comparative Jurisprudence, page 93
Economics and Social Science, page 60

Seminar

Outside of the regular instruction in the various subjects by lecture, it is the intention to furnish the students of the school an opportunity for special investigation of historical, legal, economic, and social questions under the direction of the professors. This is done by means of original papers prepared by the students. The papers are read before the professor and the students, and are then criticised and discussed. There will be at least one seminar in each subject. The number of meetings and the topics to be discussed are determined each year. Attendance at the seminar in the major subject is necessary on the part of candidates for the degree of Master of Arts or Doctor of Philosophy.

There are also preliminary seminars in history and political economy, designed primarily for those who are not fully prepared for the more advanced work. A preliminary seminar taken by a candidate for the degree of Bachelor of Arts will count for one hour toward the fifteen hours necessary for a degree.

ORDER OF STUDIES

It is recommended by the Faculty that students who intend to devote their whole time to the courses of study offered by this Faculty, take them in the following order:

First Year

	Hours per week.
Constitutional History of the United States	2
Constitutional History of England	2
European History, 1555–1771	2
Historical and Practical Political Economy	3
History of Political Theories	2
Physical Geography and Anthropology	2
Seminarium in Political Economy	1
Taxation and Finance	2

Second Year

Administrative Law	2
Comparative Constitutional Law	3
Economic Theory	2
History of Diplomacy	2
History of Political Economy	2
History of Prussia (1st term)	2
History of the United States, 1849–1861	2
Methods of Historical Study (2d term)	2
Roman Law	2
Sociology, The Family	2
United States Colonial History	2

Third Year

American Political Philosophy	1
Comparative Jurisprudence	2
Criminal Law	2
International Law	2
International Private Law (Conflict of Laws)	1
Law of Taxation (2d term)	2
Municipal Corporations (1st term)	2
Municipal Politics	2
Pauperism, Penology	2
Rise of the French Monarchy	2
Socialism	2
Statistics	2

REGISTER OF STUDENTS

Following each student's name are printed, in italics, the subjects pursued by him under the Faculty of Political Science; if the student is enrolled under another faculty as well, the name of that faculty is given in Roman type.

(For home and city address in full see Directory of Students.)

Arnstein, Leo.....New York
Yale University, A.B., 1896.
Political Economy and Finance, *American History*, Philosophy.

Baese, Charles Otto.....New York
New York University, B.S., 1892; LL.B., 1893.
Political Economy and Finance, *Sociology and Statistics*.

Barrows, David Prescott.....California
Pomona College, A.B., 1894; University of California, A.M., 1895.
Constitutional and Administrative Law, *European History*, *Public Law*.

Bates, Frank Greene.....Rhode Island
Cornell University, B.L., 1891.
American History, *European History*, *Administrative Law*, Philosophy.

Batman, Levi Gordon.....Indiana
Indiana State University, A.B., 1895.
Sociology and Statistics, Philosophy.

Bechtel, George.....New York
Political Economy and Finance, *European History*, *American History*, *Sociology*, *and Statistics*.

Bishop, William Samuel.....New York
Rutgers College, A.B., 1887; A.M., 1891; General Theological Seminary, B.D., 1893.
European History.

Caldwell, Robert Templemon.....Kentucky
Centre College, A.M., 1892.
Sociology and Statistics, *Political Economy and Finance*, *Church History*.

Camphor, Alexander Priestly.....New Jersey
University of New Orleans, A.B., 1889; Gammon Theological Seminary, B.D., 1895.
Sociology and Statistics, *Political Economy and Finance*, *Church History*.

Coleman Thomas.....West Virginia
Marietta College, A.B., 1893.
Political Economy and Finance, *American History*, *Sociology and Statistics*.

Collins, Timothy Charles.....Massachusetts
Holy Cross College, A.B., 1896.
Political Economy and Finance, *Sociology and Statistics*.

Conaway, Horace Mann.....Ohio
Ohio University, A.M., 1893.
European History, American History, Political Economy and Finance.

Cutler, Frederick Morse.....New York
Columbia University, A.B., 1895.
Sociology and Statistics.

Dawson, Ray.....New Jersey
European History, Sociology and Statistics, American History.

Dennis, Alfred Lewis Pinneo.....New York
Princeton University, A.B., 1896.
European History, American History, International Law.

Duggan, Stephen Pierce.....New York
College of the City of New York, B.S., 1890.
Political Economy and Finance, American History.

Dynes, John Howard.....Ohio
Adelbert College, A.B., 1891.
Sociology and Statistics, Political Economy and Finance, American History.

Emerick, Charles Franklin.....New York
Wittenberg College, Ohio, A.B., 1889; A.M., 1892; Michigan Agricultural College, M.S., 1891; University of Michigan, Ph.M., 1895.
Political Economy and Finance, Sociology and Statistics, American History, Philosophy.

Estabrook, Harold Kelsey.....Massachusetts
Harvard University, A.B., 1892; A.M., 1895.
Sociology and Statistics.

Evans, William Sanford.....New York
Columbia University, A.M., 1896.
Sociology and Statistics, Political Philosophy, Political Economy, and Finance.

Fish, Azel Hull.....New York
Political Economy and Finance, Sociology and Statistics.

Hall, Frederick Smith.....New Jersey
Wesleyan University, A.B., 1893.
Political Economy and Finance, Sociology and Statistics, American History, European History.

Hartranft, Frederick Berg.....Connecticut
Columbia University, A.B., 1896.
Political Economy and Finance, Sociology and Statistics, Roman Law and Comparative Jurisprudence, Constitutional Law.

Hiester, Anselm Vinet.....Pennsylvania
Franklin and Marshall College, A.B., 1889; New York University, A.M., 1896.
Sociology and Statistics, Political Economy and Finance, American History.

Holt, Hamilton.....New York
Yale University, A.B., 1894.
Sociology and Statistics, Political Economy and Finance.

Howard, Francis William.....Ohio
Niagara University, A.B.
Sociology and Statistics, Political Economy and Finance, Philosophy.

Hudson, Gardner Kirk.....Massachusetts
Brown University, A.B., 1896.
Sociology and Statistics, Political Economy and Finance, Political Philosophy.

Hughes, Walter Lincoln.....New York
Colgate University, Ph.B., 1896.
Political Economy and Finance.

Hyde, Henry St. John.....New York
Political Economy and Finance.

King, Edward.....New York

King, William Herbert.....Massachusetts
Massachusetts Institute of Technology, S.B., 1894; Harvard University, A.B., 1896.
Administrative Law, Constitutional Law, Political Economy and Finance.

Lamson, Elliott Woodbury.....Massachusetts
Political Philosophy, Sociology and Statistics, Philosophy.

Maltbie, Milo Roy.....Illinois
Upper Iowa University, Ph.B., 1892; Northwestern University, Ph.M., 1893.
Administrative Law, Constitutional Law, Political Economy and Finance.

Mathews, Byron Collins.....New Jersey
Syracuse University, Ph.D., 1893.
Sociology and Statistics

Merriam, Charles Edward.....Iowa
Lenox College, A.B., 1893; State University of Iowa, A.B., 1895.
Political Philosophy, American History, Constitutional Law.

Merriman, James David.....Maine
Bowdoin College, A.B., 1892; A.M., 1895.
Political Economy and Finance, Sociology and Statistics, European History, Law.

Mitchell, James.....Michigan
Alma College, Ph.B., 1893.
American History, European History, Philosophy.

Moore, William Dunlap.....New York
Yale University, A.B., 1895.
Political Economy and Finance, Sociology and Statistics, International Law.

Neal, John Randolph.....Tennessee
University of Tennessee, A.B., 1893; A.M., 1894; Vanderbilt University, LL.B., 1896.
Constitutional and Administrative Law, Roman Law and Comparative Jurisprudence, Political Economy and Finance.

Nellany, Vincent Michael.....New York
Seton Hall College, B.S., 1896.
Political Economy and Finance, Sociology and Statistics, European History.

Palmer, Samuel Gilmore.....New York
Hamilton College, A.B., 1895.
Sociology and Statistics, Philosophy.

Pentz, Julius Wilhelm.....New York
Sociology and Statistics, Philosophy.

Powell, Irwin Augustus.....New York
Political Economy and Finance, American History.

Powers, Arthur Augustus.....New York
International Law, European History, American History, Philosophy.

Ratzell, Joseph Perry.....Pennsylvania
Franklin and Marshall College, A.B., 1896.
Sociology and Statistics.

Reynolds, James Bronson.....New York
Yale University, A.B., 1884; B.D., 1888.
Sociology and Statistics, *Political Economy and Finance*, Philosophy.

Schaper, William August.....Wisconsin
University of Wisconsin, B.L., 1895.
Political Economy aud Finance, *Sociology and Statistics*, *American History*.

Simpson, Herman.....New York
New York University, A.B., 1894.
Sociology and Statistics, *Political Economy and Finance*, *American History*.

Sites, Clement Moore Lacey.....District of Columbia
Ohio Wesleyan University, A.B., 1887; A.M., 1890; National University Law School, Washington, D. C., LL.B., 1890.
Constitutional and Administrative Law, *Political Economy and Finance*, *Sociology and Statistics*.

Stark, Francis Raymond.....New York
St. Francis Xavier College, A.B., 1893; A.M., 1894; Columbia University, LL.B., 1896.
International Law, *Constitutional and Administrative Law*, *American History*, *European History*.

Stevenson, Robert Alston.....Pennsylvania
Princeton University, A.B., 1892.
Sociology and Statistics, *Political Economy and Finance*, *Political Philosophy*.

Stokes, James Graham Phelps.....New York
Yale University, Ph.B., 1892; Columbia University, M.D., 1896.
Sociology and Statistics, *Political Economy and Finance*, *Political Philosophy*.

Stone, Nahum Isaac.....New York
Gymnasium of Odessa, Testimonium Maturitatis, 1891.
Political Economy and Finance, *Sociology and Statistics*, *Political Philosophy*.

Stürcke, Louis.....New York
Columbia University, A.M., 1895; LL.B., 1895.
Administrative Law, *Political Economy and Finance*, *International Law*, Philosophy, Pure Science.

Temple, Truman Roswell.....New York
European History, *American History*, *Economics and Social Science*, *Political Economy and Finance*, *Sociology and Statistics*.

Thompson, John Henry.....New York
Rutgers College, A.B., 1894.
Sociology and Statistics.

Tuttle, William Ransom.....Ohio
Olivet College, A.B., 1894; B.S., 1894.
Sociology and Statistics, *Political Economy and Finance*, *International Law*.

Walz, Ernest Louis, Jr.....New Jersey
Political Economy and Finance.

Watson, Charles.....Illinois
National Normal University, A.B., 1886; Cumberland University, B.D., 1888.
Sociology and Statistics.

Weber, Adna Ferrin.....New York
Cornell University, Ph.B., 1894.
Political Economy and Finance, *Sociology and Statistics*, *Administrative Law*.

Webster, William Clarence.....Illinois
Albion College, A.B., 1887.
Administrative Law, Constitutional Law, Sociology and Statistics.

Weil, Milton.....New York
European History, Administrative Law, Sociology and Statistics, Political Philosophy.

Wessell, Arthur Louis.....New York
Political Economy and Finance.

Wilcox, Delos Franklin.....Michigan
University of Michigan, A.B., 1894; A.M. 1895; Columbia University, Ph.D., 1896.
Political Economy and Finance, American History.

SUMMARY

Students primarily registered under this Faculty	64
Students from other Faculties of the University:	
From the College	52
From the School of Law	221
From the School of Philosophy	24
From the School of Pure Science	1
Total	362

SCHOOL OF PHILOSOPHY

The following departments are represented in the Faculty.

ENGLISH
ENGLISH LANGUAGE AND LITERATURE
LITERATURE
RHETORIC
GERMANIC LANGUAGES AND LITERATURES
GREEK LANGUAGE AND LITERATURE
INDO-IRANIAN LANGUAGES
LATIN LANGUAGE AND LITERATURE
MUSIC
PHILOSOPHY AND EDUCATION
PSYCHOLOGY
ROMANCE LANGUAGES AND LITERATURES
SEMITIC LANGUAGES AND RABBINICAL LITERATURE

Officers of the Faculty

NICHOLAS MURRAY BUTLER, Ph.D. ..... *Dean and ex-officio Member of the University Council*

EDWARD DELAVAN PERRY, Ph.D. ..... *Secretary and Elected Delegate to the University Council*

The Faculty

SETH LOW, LL.D., *President*

HENRY DRISLER, LL.D., *Professor Emeritus of the Greek Language and Literature*

THOMAS RANDOLPH PRICE, M.A., LL.D., *Professor of the English Language and Literature*

HARRY THURSTON PECK, Ph.D., *Professor of the Latin Language and Literature*

NICHOLAS MURRAY BUTLER, Ph.D., *Professor of Philosophy and Education*

WILLIAM HENRY CARPENTER, Ph.D., *Professor of Germanic Philology*

JAMES MCKEEN CATTELL, Ph.D., *Professor of Psychology*

EDWARD DELAVAN PERRY, Ph.D., *Jay Professor of the Greek Language and Literature*

ABRAHAM VALENTINE WILLIAMS JACKSON, Ph.D., *Professor of the Indo-Iranian Languages*

ADOLPHE COHN, LL.B., A.M., *Professor of the Romance Languages and Literatures*

GEORGE EDWARD WOODBERRY, A.B., *Professor of Literature*

BRANDER MATTHEWS, A.M., LL.B., *Professor of Literature*

RICHARD JAMES HORATIO GOTTHEIL, Ph.D., *Professor of Rabbinical Literature and the Semitic Languages*

HENRY ALFRED TODD, Ph.D., *Professor of Romance Philology*

GEORGE RICE CARPENTER, A.B., *Professor of Rhetoric and English Composition*

JAMES RIGNALL WHEELER, Ph.D., *Professor of Greek*
JAMES HERVEY HYSLOP, Ph.D., *Professor of Logic and Ethics*
JAMES CHIDESTER EGBERT, JR., Ph.D., *Adjunct Professor of Latin*
CARLO LEONARDO SPERANZA, A.M., B. ès L., *Adjunct Professor of the Romance Languages and Literatures*
CALVIN THOMAS, A.M., *Professor of the Germanic Languages and Literatures*
EDWARD ALEXANDER MACDOWELL, Mus. D., *Professor of Music*

NOTE.—For details as to other officers of instruction, see departmental statements.

GENERAL STATEMENT

The Faculty of Philosophy has charge of the university courses of instruction and research in philosophy, philology, and letters. Any duly matriculated university student is at liberty to combine courses of study and investigation under this faculty with courses offered by the Faculties of Law, Medicine, Political Science, Pure Science, and Applied Science.

Students are received either as candidates for the degrees of bachelor of arts, master of arts, or doctor of philosophy, or to pursue special or partial courses. Some courses of lectures are open to the public, men and women alike, on payment of an auditor's fee. No auditor will be admitted to any course without the consent of the instructor, previously obtained. Auditors do not have and cannot receive any university recognition whatever.

Students enrolled either in the General, the Union, or the Jewish Theological Seminary, in the city of New York, who may be designated for the privilege by the authorities of those institutions, and accepted by the President of Columbia University, are admitted to the courses offered by the Faculty of Philosophy free of any charge for tuition.

Students enrolled in the Art Schools of the Metropolitan Museum of Art, who may be designated for the privilege by the authorities of those schools, and accepted by the President of Columbia University, are permitted to attend the courses of lectures on archæology and æsthetics free of any charge for tuition.

By the terms of an alliance between Columbia University and the Teachers College, 120th Street, Morningside Heights, duly qualified students of the Teachers College are permitted to enter the courses offered by the Faculty of Philosophy, either as candidates for degrees or as special students.

All of these institutions offer reciprocal privileges to students of Columbia University.

ADMISSION AND ATTENDANCE

Students desiring to pursue their studies under the direction of the Faculty of Philosophy as candidates for a degree, must have completed the curriculum of some college in good standing at least to the close of the junior year. Certificates of graduation or dismission from institutions of learning in foreign countries are also accepted.

Candidates for the degree of Bachelor of Arts, are required to pursue courses of instruction amounting in all to not less than fifteen hours of attendance per week for one year, and must conform to such requirements regarding a gradu-

ation thesis as are established for members in the senior class in Columbia College. Their selection of studies is not confined to those in this Faculty. Students may pursue courses offered by the Faculty of Political Science or the Faculty of Pure Science, or the first-year course in the School of Law or the School of Medicine, and count the same as part of the requirement for the bachelor's degree.

Candidates for the degrees of master of arts and doctor of philosophy must hold a bachelor's degree from some college in good standing and remain in residence for not less than one and three years respectively. They are required to pursue courses of study or research in one major and two minor subjects, but are not held to any fixed number of hours of attendance per week.

Candidates for the degree of doctor of philosophy who have been in residence at other universities are given credit for the same.

Students who are not candidates for a degree are admitted to any courses which they are found competent to undertake.

There are no examinations for admission, either as candidates for a degree or as special students. Students are admitted at any time during the year, and may present themselves for examination for a degree whenever the requirements as to residence and an essay or dissertation have been complied with.

For fees see page 23.

COURSES OF STUDY AND RESEARCH

For the courses offered for 1896–97, see departmental statements, as below. For more detailed accounts of the courses and for the tender of 1897–98, application should be made for circular of the School of Philosophy.

Philosophy and Education, page 123, 125
Experimental Psychology, page 124
Greek (including Archæology and Epigraphy), page 84
Latin (including Epigraphy and Roman Archæology), page 91
English, page 75
Literature, page 77
Music, page 110
Germanic Languages, page 81
Romance Languages:
- **French, page 134**
- **Italian, page 137**
- **Spanish, page 138**
- **Provençal, page 137**
- **Portuguese and Rumanian, page 138**
- **Romance Philology, page 138**

Oriental Languages, page 114
- **Semitic Languages, page 114**
- **Indo-Iranian Languages, page 116**

Study of Languages, page 117
Courses at the Union Theological Seminary:
New Testament Greek, page 85

REGISTER OF STUDENTS

Following each student's name are printed, in italics, the subjects pursued by him under the Faculty of Philosophy ; if the student is enrolled under another Faculty as well, the name of that Faculty is given in Roman type.

(For home and city address in full see Directory of Students.)

Alger, William Gaul.....New York
Yale University, A.B., 1869.
Music.

Bahret, James Lincoln.....New York
Wesleyan University, A.B., 1895.
Semitic Languages and Literatures, Romance Languages and Literatures.

Bewer, Julius Augustus.....New York
Semitic Languages and Literatures, Greek.

Bigelow, Frank Hoffnagel.....Vermont
Middlebury College, A.B., 1894.
Philosophy, Literature.

Bradford, Charles Clay.....New York
Philosophy, German, Latin.

Burke, Edmund.....New York
College City of New York, A.B., 1890.
Latin Language and Literature, Roman Archæology, Greek.

Carmiencke, Albert Greenleaf.....New York
Music.

Chandler, Frank Wadleigh.....New York
Brooklyn Polytechnic Institute, A.B., 1894.
Columbia University, A.M., 1896.
Literature, French, Philosophy.

Claflin, Edward Scott.....Ohio
Adelbert College, A.B., 1895.
Philosophy, Literature.

Conant, Roger Lewis.....New York
Columbia University, A.B., 1895.
Latin Language and Literature, Roman Archæology, Greek.

Downer, Charles Alfred.....New York
College City of New York, A.B., 1886.
Romance Languages and Literatures, Latin.

Eliah, Shimmon Mar.....Persia
Iranian, Semitic Languages and Literatures.

Emhoff, Elmer Ellsworth.....Pennsylvania
Wooster University, A.B., 1892.
Philosophy ; Political Science.

Espenshade, Abraham Howry.....Pennsylvania
Wesleyan University, A.B., 1894.
English Language and Literature, Germanic Languages and Literatures, Literature.

Fismer, Arnold Winkelried.....New York
Philosophy, Greek, German.

Fitch, Wells Hubert .....New York
Columbia University, A.B., 1896.
Philosophy, Hebrew; Political Science.

Franz, Shepherd Ivory.....New Jersey
Columbia University, A.B., 1894.
Psychology, Education, Anthropology.

Frenzen, Wilhelm.....New York
Philosophy.

Frost, Francis Le Jan, Jr..... South Carolina
Romance Languages and Literatures, Iranian.

Fry, John Ellis .....Indiana
Wabash College, A.B., 1895.
Philosophy.

Gerrodette, Frank Honoré.....New York
Harvard University, A.B., 1891; A.M., 1893.
Anthropology; Political Science.

Hamlin, Christopher Robert.....New York
Boston University, A.B., 1893.
Columbia University, A.M., 1894.
Philosophy.

Hayes, Charles Harris .....New Jersey
Columbia University, A.B., 1890; A.M., 1891.
Philosophy, German, Scandinavian; Political Science.

Hayman, Jacob..... ...New York
Brown University, C.E., 1894.
German.

Holden, Louis Halsey.....New Jersey
Yale University, A.B., 1895.
Semitic Languages and Literatures; Political Science.

Houston, Henry Eugene .....New Jersey
Columbia University, A.B., 1895.
Psychology, Education, Anthropology, French; Pure Science.

Howell, Henry Budd..... .....New Jersey
Lafayette College, A.B., 1886; A.M., 1889.
Psychology, Education, Anthropology.

Jackson, Robert Lyon.....Minnesota
University of Minnesota, B.S., 1894.
Literature.

Joffe, Judah.....New Jersey
Columbia University, A.B., 1893.
Classical Philology, Sanskrit, Iranian.

Johnston, Samuel Carlisle.....New York
Colgate University, A.B., 1884; A.M., 1887.
Greek, Latin, Education.

Johnstone, Herbert McLeod.....New York
Columbia University, A.B., 1894; A.M., 1895.
Literature, *Anglo-Saxon*, *Philosophy*.

Jones, Adam Leroy.....Illinois
Williams College, A.B., 1895.
Philosophy, *Literature*, *Education*.

Jordan Daniel.....New York
University of France, B.S., 1888.
State Normal College, Pd.B., Albany, 1893.
Romance Languages and Literatures, *Philosophy*.

Keppler, Emil Alexander Charles.....New York
Columbia University, Ph.B., 1895.
Literature, *English*, *Philosophy*.

Khazoyan, Haigag.....Turkey
Philosophy. Political Science.

Krans, Horatio Sheafe.....New York
Columbia University, A.B., 1894.
Literature, *Romance Languages and Literatures*, *Germanic Languages and Literatures*.

Kroeber, Albert Louis.....New York
Columbia University, A.B., 1896.
Literature.

Kuntz, Charles.....New York
Psychology, *Anthropology*, *Philosophy*; Political Science.

Lau, Robert Julius.....New Jersey
Assyrian, *Hebrew*, *Turkish*.

Laurie, James Anderson, Jr.....New York
Oregon State University, A.B., 1894.
Philosophy; Political Science

Law, Frederick Houk.....New York
Amherst College, A.B., 1895.
Columbia University, A.M., 1896.
English, *Literature*, *Education*.

Lay, Wilfrid.....New York
Columbia University, A.B., 1893.
Philosophy.

Levine, David.....New York
College City of New York, A.B., 1896.
Semitic Languages and Literatures, *Education*, *Philosophy*, *Greek*.

McConkey, Henry Alexander.....Pennsylvania
Princeton University, A.B., 1890.
Literature.

McDonald, James Walton.....Alabama
Cumberland University, A.B., 1893.
Philosophy; Political Science.

McWhood, Leonard Beecher.....New Jersey
Columbia University, A.B., 1893.
Psychology, *Music*, *Anthropology*; Political Science.

Martin, Hugh Whitefield.....New York
Music.

Marvin, Walter Taylor.....New York
Colombia University, A.B., 1893.
Philosophy, *Ethics*; Political Science.

Mohr, Charles Adam.....Pennsylvania
Keystone Normal School, B.E., 1890.
Philosophy, Political Science.

Nordby, Conrad Hjalmar.....New York
College City of New York, B.S., 1886.
Germanic Languages and Literatures.

Okuno, Takenasuke.....New York
Education, Political Science.

Otheman, Edward Roe.....New York
Princeton University, A.B., 1895.
Music.

Palmer, Courtlandt.....New York
Music.

Peck, Samuel Minturn.....Alabama
University of Alabama, A.M., 1876.
Literature.

Peters, Frederick Augustus.....New York
Columbia University, A.B., 1896.
Philosophy, *Hebrew*, Political Science.

Popper, William.....New York
Columbia University, A.B., 1896.
Semitic Languages and Literatures, *Anthropology*, Political Science.

Potter, Rockwell Harmon.....New York
Union College, A.B., 1895.
Philosophy, *Hebrew*, Political Science.

Preston, Thomas James.....Texas
Trinity University, Texas, A.B., 1893.
Philosophy, *Greek*, Political Science.

Radau, Hugo.....New York
Semitic Languages and Literatures, *Iranian.*

Rain, James Watt.....Ohio
Oberlin College, A.B., 1895.
Philosophy, Political Science.

Randolph Corliss Fitz.....New York
Alfred University, A.B., 1888, A.M., 1888.
Latin, *Greek*, *Sanskrit.*

Raymond, Frederic Newton.....Arkansas
University of Kansas, A.B., 1896.
Literature, *English*, *French.*

Reinhold, Franklin Peters.....Ohio
Adelbert College, A.B., 1895.
Philosophy, Political Science.

Remy, Arthur Frank Joseph.....New York
College City of New York, A.B., 1890.
Germanic Languages and Literatures, *Sanskrit.*

Rubenstein, Charles Aaron.....Arkansas
University of Cincinnati, O., B.L., 1891.
Hebrew Union College, Rabbi, 1891.
Philosophy, *French.*

Rupp, August.....New York
College City of New York, A.B., 1884.
Latin Language and Literature, *Roman Archæology*, *Greek*.

Scholey, Charles Herbert.....Ohio
Western Reserve University, A.B., 1895.
Philosophy, Political Science.

Schroeder, Detlef Heinrich.....Iowa
Iowa Western University, A.B., 1895.
Semitic Languages and Literatures, *Hebrew*, *French*, Political Science.

Seward, Samuel Swayze, Jr.....New York
Columbia University, A.B., 1896.
Literature, *Italian*.

Shaw, Arthur Wynne.....New Jersey
Yale University. A.B., 1892, A.M., 1895.
Iranian.

Simmons, James Dickinson.....Maryland
Lafayette College. A.B., 1893.
Philosophy, *Iranian*, Political Science.

Smith, Gerald Birney.....Massachusetts
Brown University, A.B., 1891.
Philosophy, *Hebrew*, Political Science.

Spaulding, Edward Gleason.....Vermont
University of Vermont, B.S., 1894.
Columbia University, A.M., 1896.
Philosophy, *Ethics*, *Literature*, *Education*, Political Science.

Spencer, William Sawyer.....Vermont
Boston University. A.B., 1893.
Philosophy

Spingarn, Joel Elias.....New York
Columbia University, A.B., 1895.
Literature, *Spanish*.

Steele, David McConnell.....Pennsylvania
University of Wooster, A.B., 1895.
Philosophy, *Literature*.

Stephens, John Walter.....Texas
Trinity University, A.B., 1893.
Cumberland University, B.D., 1896.
Philosophy, *Ethics*, *Greek*, Political Science.

Stewart, Albert Cross.....Washington
Whitworth College, A.B., 1896.
Literature.

Stewart, Calvin Wilfred.....Washington
Whitworth College, A.B., 1895.
Philosophy, *Literature*, Political Science.

St. John, Edward Emerson.....Indiana
Wabash College, A.B., 1890, A.M., 1893.
Greek, *Philosophy*.

Tamblyn, William Thomas Ferguson.....Ontario
Toronto University, A.B., 1895.
Latin, *Greek*, *Sanskrit*.

Taylor, Joseph Russell.....Ohio
Ohio State University, A.B., 1887.
Literature, *English*.

Torossian, Bedros Reuben.....New York
Syriac.

Torosyan, Hovhannes T.....New York
Arabic, *Syriac*.

Underhill, John Garrett.....New York
Brooklyn Polytechnic Institute, A.B., 1894.
Columbia University, A.M., 1896.
Literature, *Philosophy*, *French*.

Vail, Newton Foster.....New York
Hobart College, A.B., 1890.
Yale University, A.B., 1892.
Latin Language and Literature, *Greek*, *Archæology*.

Washington, William Morrow.....Kentucky
Central College, Ky., B.S., 1895.
Philosophy, *Psychology*, *Education*, Political Science.

Weir, William Nicholas.....New York
Philosophy, *Education*.

Wiers, Edgar Swan.....Ohio
Adelbert College, A.B., 1895.
Philosophy.

Wilcomb, Chester James.....New Hampshire
Harvard University, A.B., 1895.
Philosophy, Political Science.

Williams, John.....New York
Trinity College, A.B., 1890, A.M., 1893.
Philosophy.

SUMMARY

Students primarily registered under this Faculty		91
Students from other Faculties of the University :		
From the College		55
From the School of Law		3
From the School of Political Science		12
From the School of Pure Science		9
Students from Barnard College :		
Seniors	21	
Graduate Students	51	
		72
Total		242

SCHOOL OF PURE SCIENCE

The following departments are represented in the Faculty :

ANATOMY
ASTRONOMY
BACTERIOLOGY
BOTANY
CHEMISTRY
GEOLOGY
MATHEMATICS
MECHANICS
MINERALOGY AND METALLURGY
PHYSICS
PHYSIOLOGY
ZOÖLOGY

Officers of the Faculty

ROBERT S. WOODWARD, C.E., Ph.D. ..... *Dean and ex-officio Member of the University Council*
WILLIAM HALLOCK, A.B., Ph.D. ..... *Secretary*
JOHN K. REES, A.M., E.M., Ph.D., *Elected Delegate to the University Council*

The Faculty

SETH LOW, LL.D., *President*

J. HOWARD VAN AMRINGE, Ph.D., L.H.D., *Professor of Mathematics*
OGDEN N. ROOD, A.M., *Professor of Physics*
THOMAS EGLESTON, E.M., Ph.D., LL.D., *Professor of Mineralogy and Metallurgy*
CHARLES F. CHANDLER, Ph.D., M.D., LL.D., *Professor of Chemistry*
JOHN K. REES, A.M., E.M., Ph.D., *Professor of Astronomy and Director of the Observatory*
JOHN G. CURTIS, A.M., M.D., *Professor of Physiology*
ALFRED J. MOSES, E.M., Ph.D., *Adjunct Professor of Mineralogy*
GEORGE S. HUNTINGTON, M.D., *Professor of Anatomy*
HENRY FAIRFIELD OSBORN, Sc.D., *Da Costa Professor of Zoölogy*
EDMUND B. WILSON, Ph.D., *Professor of Invertebrate Zoölogy*
JAMES F. KEMP, A.B., E.M., *Professor of Geology*
WILLIAM HALLOCK, A.B., Ph.D., *Adjunct Professor of Physics*
MICHAEL I. PUPIN, Ph.D., *Adjunct Professor of Mechanics*
T. MITCHELL PRUDDEN, M.D., *Professor of Bacteriology*
ROBERT S. WOODWARD, C.E., Ph.D., *Professor of Mechanics*

Thomas S. Fiske, A.M., Ph.D., *Adjunct Professor of Mathematics*
Harold Jacoby, Ph.D., *Adjunct Professor of Astronomy*
Frank N. Cole, Ph.D., *Professor of Mathematics*
Frederic S. Lee, Ph.D., *Adjunct Professor and Demonstrator of Physiology*
Lucien M. Underwood, Ph.D., *Professor of Botany*

Note.—For details as to other officers of instruction, see departmental statements.

GENERAL STATEMENT

This faculty has charge of the university courses of instruction and research in all the branches of Pure Science, and especially the supervision of candidates for the degrees of masters of arts and doctor of philosophy in Pure Science.

Candidates for these degrees taking major subjects in Pure Science will be regarded as under the special jurisdiction of this faculty, and must apply to the dean for registration before entering upon their work. The same registration requirement must also be complied with by candidates who desire to pursue minor or special subjects under this faculty. Students in the other faculties of the university are also at liberty to pursue courses of study and investigation under this faculty.

In the faculty are represented all the departments of the university which give instruction in Pure Science

Graduate students, candidates for the degrees of A.M. or Ph.D., are subject:

1st. To the general regulations of the University Council. (See p. 144.)
2d. To the special regulations of this faculty.

Special Regulations of the Faculty of Pure Science

The degree of doctor of philosophy is awarded on the basis of a thorough training in the methods of advanced work and investigation in some branch of science. The following statements are offered for the guidance of students. In the case of students of especial ability or exceptional previous training, the Faculty may modify its usual regulations.

The student is expected to gain a sound general knowledge of the two minor subjects of his choice. In the major subject a much more thorough and special knowledge is required, particular importance being attached to training in research. In order to avoid undue specialization, no two "subjects" can be chosen from the same "department" without the consent of the faculty.

One year's study in residence in the university is required for the degree of master of arts, and three years' study for the degree of doctor of philosophy, at least one year of which shall be in residence. Candidates for either of these degrees are expected to devote at least one-half their time throughout their course of study to the major subject. In the case of laboratory courses this implies two days a week, or its equivalent, as determined by each department. Each minor subject is intended to occupy approximately one-fourth of the time during one year for the degree of master of arts, and during one or two years,

according to the nature of the subject and the previous training of the candidate, for the degree of doctor of philosophy.

It should be understood that both the major and the minor examinations may cover assigned work not included in the regular lecture or laboratory courses. It is expected that the third year of study, and in certain cases both the second and the third years, will be wholly devoted to the major subject and to investigation for the dissertation.

As regards the "essay" required for the degree of master of arts, and the "dissertation" for the degree of doctor of philosophy, the approval of the subject for investigation, as well as the essay or dissertation itself, rests with the instructor in charge of the candidate's major subject. It is desirable to make these studies consecutive, and treat them, respectively, as preliminary and completed investigations. Great importance is attached to the character of the final dissertation. While it must depend for acceptance chiefly on the subject-matter, it should show good literary workmanship, especially by directness and clearness of statement. It should demonstrate the author's capacity to do original scientific work and to render an intelligent account thereof. It should evince a familiarity with the literature of the subject and with the latest methods of research applicable to it. The treatment should be as concise as the nature of the work permits. Every dissertation should be preceded by a clear introductory statement setting forth the nature and the scope of the research and be followed by a résumé of the results and the conclusions obtained. It should also be accompanied by a table of contents and by a list of the authorities consulted in its preparation.

The dissertations are to be submitted by the third week of March. They are to be distributed to the faculty before the final examination. The essay for the degree of master of arts must be submitted on or before May 15th.

Examinations

Applications to be examined for the degree of master of arts or doctor of philosophy must be made on or before April 1st of the academic year in which the examination is desired. The examination shall be oral, or at least in part, and in the case of candidates for the degree of doctor of philosophy, the dissertation must be publicly defended in the presence of the faculty or of so many of the members as may desire to attend. The instructors in charge of the candidate's major and minor subjects will conduct the examination.

At the time of the final examination for the degree of doctor of philosophy candidates will be expected to read scientific works in French and German at sight.

Special Students

Students who are not candidates for a degree may be permitted to pursue such courses from among those offered by this faculty as they may be found qualified to enter upon. Each applicant must demonstrate his preparation for, and his ability to pursue, the course or courses selected, and of his qualifications the heads of the departments in which he proposes to study shall be the judges. In general these special courses are open only to advanced students.

COURSES OF STUDY

For the courses offered for 1896–97 see departmental statements given below. For more detailed accounts of the courses and for the tender of 1897–98 application should be made for announcement of the School of Pure Science.

Mathematics, page 96
Mechanics, page 98
Astronomy, page 48
Physics, page 127
Chemistry, page 52
Mineralogy, page 101
Geology, page 79
Zoölogy, page 141
Botany, page 50
Physiology, page 130
Anatomy, page 41
Bacteriology, page 121

REGISTER OF STUDENTS

Following each student's name are printed, in italics, the subjects pursued by him under the Faculty of Pure Science; if the student is enrolled under another faculty as well, the name of that faculty is given in Roman type.

(For home and city address in full see Directory of Students.)

CANDIDATES FOR DEGREES

Berry, James Fuller.....New York
Columbia University, A.B., 1894; A.M., 1896.
Mathematics, *Mechanics*, *Physics*.

Calkins, Gary Nathan.....New York
Institute of Technology, B.S., 1890.
Zoölogy, *Botany*, Political Science.

Cottier, Joseph Germains Charles.....New Jersey
Stevens Institute, M.E., 1894; Columbia University, A.M., 1896.
Mechanics, *Astronomy*, Philosophy.

Crampton, Henry Edward, Jr.....New York
Columbia University, A.B., 1893.
Zoölogy, *Botany*, *Physiology*.

Griffin, Bradney Beverley.....New York
College of the City of New York, B.S., 1894.
Zoölogy, *Geology*, *Botany*.

Grout, Abel Joel.....New York
University of Vermont, Ph.D., 1890.
Botany, *Zoölogy*, Philosophy.

Harrington, Daniel W.....Wisconsin
Leland Stanford, Jr., University, A.B., 1896; Columbia University, M.D., 1888.
Physiology, *Anatomy*, *Bacteriology*.

Hays, William Henry.....New York
Columbia University, A.B., 1896.
Astronomy, *Physics*, *Zoölogy*.

Herrick, Charles Judson.....Ohio
Cincinnati University, B.S., 1891; Denison University, M.S., 1893.
Zoölogy, Philosophy.

Howe, Marshall Avery.....Vermont
University of Vermont, Ph.B., 1890.
Botany, *Zoölogy*, *Geology*.

Irving, John Duer.....New York
Columbia University, A.B., 1896.
Geology, *Zoölogy*, *Chemistry*, *Mineralogy*.

Kasner, Edward.....New York
College of the City of New York, B.S., 1896.
Mathematics, *Mechanics*, Philosophy.

Keyser, Cassius Jackson.....New York
Missouri State University, B.S., 1892; Columbia University, A.M., 1896.
Mathematics, *Mechanics*, Philosophy.

Kretz, Walter Coluzzi.....New York
Columbia University, A.B., 1896.
Astronomy, *Mathematics*, *Mechanics*.

McClung, Clarence Erwin.....Kansas
Kansas State University, A.B., 1896; Ph.G., 1892.
Zoölogy, *Physiology*, *Bacteriology*.

McGregor, James Howard.....Ohio
Ohio State University, B.S., 1894.
Zoölogy, *Physiology*, *Botany*.

Millikan, Max Frank.....Iowa
Oberlin College, A.B., 1894.
Chemistry, *Mineralogy*, Philosophy.

Newland, David Hale.....New York
Hamilton College, A.B., 1894.
Geology, *Mineralogy*, *Chemistry*.

Osterberg, Max.....New York
Columbia University, E.E., 1895; A.M., 1896.
Mechanics, *Mathematics*, Philosophy.

Parmly, Charles Howard.....New York
College of the City of New York, B.S., 1888; M.S., 1893.
Columbia University, E.E., 1892.
Mechanics, *Mathematics*, Electrical Engineering.

Paulmier, Frederick Clark.....New Jersey
Princeton University, B.S., 1894; M.S., 1896.
Zoölogy, *Physiology*, *Botany*.

Rittenhouse, Charles Tomlinson.....New York
Stevens Institute of Technology, Mech. E., 1893.
Columbia University, A.M., E.E., 1894; 1895.
Mechanics, *Mathematics*, *Astronomy*, Political Science.

Rydberg, Per Axel.....New York
University of Nebraska, B.S., 1891; A.M., 1895.
Botany, *Zoölogy*, *Mathematics*.

Schlesinger, Frank.....New York
College of the City of New York, B.S., 1890.
Astronomy, *Mechanics*, *Mathematics*.

Sherman, Henry Clapp.....Virginia
Maryland Agricultural College, B.S., 1893.
Columbia University, A.M., 1896.
Chemistry, *Physiology*, *Chemistry*.

Sumner, Francis Bertody.....New Jersey
University of Minnesota, B.S., 1894.
Zoölogy, *Physiology*, Philosophy.

Tufts, Frank Leo.....Ohio
Harvard University, A.B., 1894.
Columbia University, A.M., 1896.
Physics, *Mechanics*, *Chemistry*.

Tyler, Ansel Augustus.....Pennsylvania
Lafayette College, A.B., 1892; A.M., 1895.
Botany, *Zoölogy*, *Geology*.

Volckening, Gustav Jolius.....New York
Columbia University, Met.E., 1888; E.M., 1889.
Chemistry, *Chemistry*, *Bacteriology*.

Wilson, John Howard.....New York
Brooklyn Polytechnic Institute, A.B., 1895.
Geology, *Mineralogy*, *Astronomy*.

Wooton, Elmer Ottis.....Ohio
Earlham College, B.S., 1889; A.M., 1896.
Botany, *Geology*, *Physics*.

SPECIAL STUDENTS

Anderson, Abram Ellsworth.....New York
Zoölogy.

Beebe, Charles William.....New Jersey
Zoölogy.

Dreyfus, Frederick Jonas.....New York
College of the City of New York, A.B., 1896.
Botany.

Duryea, Chester Burnell.....New York
Chemistry.

Ferris, Floyd.....New York
Zoölogy.

Gallatin, James Nicholson.....New York
Zoölogy.

Howell, James Cox.....New York
Columbia University, A.B., 1894; A.M., 1896.
Mechanics, *Mathematics*, *Chemistry*, Engineering.

Lange, George Edward.....New York
Chemistry, *Physics*, German.

Lawrence, Amos Edward, Jr.....Massachusetts
Physics, *Chemistry*.

Le Cléar, Thomas.....New Jersey
Chemistry.

Lloyd, Francis Ernest.....Oregon
Princeton University, A.B., 1891; A.M., 1895.
Laboratory Work.

McKim, Haslett.....New York
Harvard University, A.M., 1868.
Hobart College, D.D., 1895.
Petrology.

Needham, George Gordon.....New York
College City of New York, A.M., 1865; M.D., 1865.
Physics.

Nicholas, Francis Child.....New York
Geology.

Pell, Alfred.....New York
Physiology.

Vaughn, Clifford Wheaton.....New York
Zoölogy, Physiology.

Wallace, William Seward.....New York
Zoölogy.

SUMMARY

Students registered primarily under this Faculty..... 48

Students from other faculties of the University :

From Columbia College.....	8
From the School of Applied Science.....	13
From the School of Medicine.....	29
From the School of Philosophy.....	2
From the School of Political Science.....	1
	53

Total number of students receiving instruction in graduate work..... 101

Publications of the University

COLUMBIA UNIVERSITY PRESS

The Columbia University Press was organized with the approval of the Trustees of Columbia College, and incorporated June 8, 1893, for the purpose of promoting and encouraging the publication of literary works embodying the results of original research and investigation. The Press is a private corporation, related directly to Columbia University by the provisions that its Trustees must always be officers of the University and that the President of Columbia University shall be the President of the Columbia University Press.

Publications

Classical Studies in Honor of Henry Drisler.

Science of Statistics. Part I. Statistics and Sociology. By Richmond Mayo-Smith, Ph.D.

The Principles of Sociology. By Franklin Henry Giddings, M.A.

Municipal Home Rule. A Study in Administration. By Frank J. Goodnow, A.M., LL.B.

Memoirs of the late Frederick A. P. Barnard, D.D., LL.D., L.H.D., Tenth President of Columbia College in the City of New York. By John Fulton.

An Atlas of Nerve-Cells. By M. Allen Starr, M.D., Ph.D., with the co-operation of O. S. Strong, Ph.D., and Edward Leaming, M.D.

Atlas of the Fertilization and Karyokinesis of the Ovum. By Edmund B. Wilson, Ph.D., with the co-operation of Edward Leaming, M.D., F.R.P.S.

In Preparation

Celestial Mechanics. Being Lectures Delivered at Columbia University in the Academic Years 1893–94 and 1894–95. By George W. Hill, LL.D.

Cases from the Roman Law. Obligations *ex contractu* and *quasi ex contractu*. Selected and translated by Munroe Smith, J.U.D.

Publishing Agents, The Macmillan Company, 66 Fifth Avenue, New York.

UNIVERSITY BULLETIN

The University Bulletin is issued by the Columbia University Press, with the approval of the Trustees of the University. It is addressed to the Alumni, officers, and friends of the University, and its purpose is to publish articles of interest on topics that concern the University as a whole, to furnish pertinent information with regard to the University and its separate schools, and to give a summary of important University legislation. The Bulletin will appear three times during the academic year, and, until further notice, will be sent free of charge to such Alumni of the University as may signify their desire to receive it. Numbers I–XIV will be sent, postpaid, by the Macmillan Company, 66 Fifth Avenue, New York City, on receipt of two dollars; single numbers will be supplied at twenty cents each. Since its foundation, in 1890, the Bulletin has contained a large amount of interesting and valuable matter relating to the University in its period of growth and reconstruction, and a complete set of its numbers is virtually indispensable to Alumni who preserve important publications bearing on the history of the College and the University.

Editorial Committee

From the College, George R. Carpenter (Chairman).
From the Faculty of Applied Science, Frederick R. Hutton.
From the Faculty of Law, George W. Kirchwey.
From the Faculty of Medicine, M. Allen Starr.
From the Faculty of Philosophy, Nicholas Murray Butler.
From the Faculty of Political Science, John B. Moore.
From the Faculty of Pure Science, Henry F. Osborn.
From the University Press, John B. Pine.

All communications relating to the Bulletin should be addressed to the Editorial Committee, University Bulletin, Columbia University, New York City.

SERIAL STUDIES AND CONTRIBUTIONS ISSUED FROM THE UNIVERSITY

Studies in History, Economics, and Public Law.
Studies from the Analytical and Assay Laboratories.
Contributions from the Electrical Engineering Department.
Contributions from the Herbarium of Columbia University.
Contributions from the Mineralogical Department of Columbia University.
Contributions from the Geological Department of Columbia University.
Contributions from the Observatory of Columbia University.
Contributions to Philosophy, Psychology, and Education.
Biological Contributions from Columbia University: Zoölogy.
Studies from the Department of Pathology, College of Physicians and Surgeons, Columbia University.
Memoirs from the Department of Botany of Columbia University.

The following journals are issued under the direction of members of the faculties of Columbia University or in co-operation with members of other colleges :

The School of Mines Quarterly.	
The Political Science Quarterly.	
Bulletin of the Torrey Botanical Club.	
Bulletin of the New York Mathematical Society.	
Educational Review.	(In co-operation).
Modern Language Notes.	" "
American Journal of Archæology.	" "
Psychological Review.	" "
Science.	" "

Degrees Conferred during 1895-96

Bachelor of Arts

COLUMBIA COLLEGE

Charles Siedler Adams
Bernhard Alexander
Carl Lucas Alsberg
John Richard Atwill
Edwin Atkinson Bayles
Edwin Beer
George Philip Bryant
Granville Ingraham Burr
Herbert Louis Celler
William Samuel Cherry
Charles du Pont Coudert
Walter Scott Dryfoos
Henry Louis Austin Fick
Wells Hubert Fitch
Harold Carl Geyer
Everett Willoughby Gould
Robert Hurtin Halsey
William Henry Hays
Victor William Hungerford
John Duer Irving
Walter Coluzzi Kretz
Alfred Louis Kroeber
Irving Lehman
Albert Ralph Lesinsky
Julian Clarence Levi
Frederick Montgomery Livingston
Robert Glenn McCrea
Robert Austin McCulloch
Aaron Wager Maddox
George Frederick Middendorf, Jr.
Louis Hasbrouck Newkirk
Leonard Jerome Obermeier
Edward Codman Parish
Asa Warren Parker, Jr.
Frederick Augustus Peters
Edwy Guthrie Pitblado
William Popper
Joseph Meyer Proskauer
Isidorus Ross
Allan Conn Rowe
John Wiethauper Russell
Herman Francis Sentfner
Samuel Swayze Seward, Jr.
Walter Conwell Shoup
John Hebard Snyder
David Houghtaling Taylor
John Tilley, Jr.
Carl Manfred Uhl
John Alfred Valentine
Richard Weil
Edwin Blanchard Woodruff

BARNARD COLLEGE

Alice Goddard Chase
Elsie Worthington Clews
Carrie Hammerslough
Mary Bradford Harris
Ada Hinde Hart
Anna Cole Mellick
Clara Meltzer
Louise Place
May Hinton Pollock
Eva Sherwood Potter
Mary Rogers Roper
Ettie Stettheimer
Mary Matilda Stone
Anne Janet Sutphen
Clementine Tucker
Bertha Steele Van Riper
Jessie May Wendover
Gertrude Wolff

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Bachelor of Laws

Alfred John Amend
Paul Armitage, A.B.
Berkeley Clarence Austin, A.B.
Shelley Fowler Austin
William Thomas Aycock, A.B.
Harry Samuel Bandler, A.B.
Solomon Charles Bernstein, A.M.
Russell Ely Burke, A.B.
John Francis Carew, A.B.
James Dickson Carr, A.B.
Thomas Ives Chatfield, A.B.
Joseph Jacob Corn
Sidney Clinton Crane
William Beers Crowell
Eugene Howell Daly, A.B.
John G. Dunbar
William C. Dunbar
Horatio Seymour Eisman, A.M.
Hermann George Friedmann, A.M.
Sydney Wesley Hart, Ph.B.
Otto Theodore Hess, A.B.
Walter Baylis Hopping
Harold Hurd
Edwin James Johnson
Norman Gildersleeve Johnson, A.B.
William C. B. Kemp
Harvey Roberts Kingsley, A.B.
Arthur Charles Kletzsch, A.B.
William R. A. Koehl, A.B.
Edgar Julius Kohler, A.B.
Henry M. Levin, B.S.
Louis Levy, A.B.
Edward Livingston, Jr., A.B.
Campbell Erie Locke, A.B.
Charles Edward Francis McCann, Ph.B.
Cornelius Patrick McIntyre, A.B.
Robert Mickle Miles, Jr., A.M.
Frederick Felix Neuman, A.B.
Sheridan Shook Norton, A.M.
James F. O'Beirne, A.M.
Charles Rogers Pelgram
George Ross
Frederick H. Sanborn, A.B.
George J. Schleicher
Peter Schmuck, A.M.
Edward Samuel Seidman, A.B.
Oscar Roland Seitz, A.B.
Francis Raymond Stark, A.M.
Robert William Thompson, Jr., A.M.
Henry Ayres Uterhart, A.B.
Sampson Herbert Weinhandler, A.B.
Lewis Morris White

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Doctor of Medicine

Walter Sawyer Adams, A.B.
William Adler
Horace Russel Allen, Jr., A.B.
Emil Altman
Samuel Ansbacher, B.S.
William Henry Areson
Oliver Luther Austin
William Hayden Baker, A.B.

Charles Everett Banker, A.B.
Archie Henry Barkley
John Hendley Barnhart, A.M.
Alfred Bell
Charles Sylvester Bentley
Charles White Berry
Horace Bigelow, A.B.
Arthur Walter Bingham, B.S.
Albert George Bising, A.B.
Edward Blaise
Jesse Leonti Bliss
John Henri Blot
Edward Augustus Blount, Jr.
Henry Julius Blumensohn, B.S.
Alfonse Michael Bodden, A.M.
Belmont de Forest Bogart
Charles Herbert Borden
Leon Bowman
Charles Edward Boynton, A.B.
Mordecai Robert Bren
Everett Clifton Brennand
Walter Max Brickner, B.S.
Elias Galley Brown, A.B.
Frank Thomas Budd
William Buermann
Clarence Perciville Bulson, Ph.G.
James Edward Campbell, Ph.B.
Ransford De Los Canedy
James Peter Casazza, Ph.G.
Douglas Aymar Cater, B.S.
Arthur Hutchins Cilley, A.B.
Samuel Cochran, A.B.
James Cantine Coles
Howard Ogle Comegys
James Bronson Conant, A.B.
Charles Frank Connor
George Mason Creevey, A.B.
David Ryerson Crounse
Willis Hanford Crowe
Frederick Wallace Culler, Ph.G.
Harold Hammond Cummings
Arthur Ward Cutler
Robert Morris Daley
William Joseph Leo Davis
José Anastasis Diaz-y-Rodriguez, A.B.
William Gordon Dice, A.B.
Joseph Milton Dill, Jr.
Francis Oswald Dorsey, A.B.
Mortimer Byron Downer
Frank Chase Downing
Jay Harvey Durkee, A.B.
John S. Easton, A.B.
William Gustav Eckstein
Ogden Matthias Edwards, Jr., B.S.
Robert Emmet
Floyd Bonesteel Ennist
Edgar Horace Farr, A.B.
Joseph Whittlesay Fauntleroy, M.D.
Burr Ferguson, A.B.
Carl Ferdinand Herman Fischer
Howard Sinnickson Forman, B.S.
Ernest Wallace Fowler
Samuel Wallace Fowler, Ph.G.
Robert Lachlison Fox, M.D.
Maurice Friedman
Ennis Ignatius Geraghty
Ernest Carson Gibney, A.B.
James Patrick Gilligan
Adolph Goldhammer, B.S.
Sidney Ormond Goldman
Carl Goldmark
Charles Augustus Goodrich, B.S.
John William Gerhard Greeff
Charles William Green
Chauncey Boyd Griffiths, A.B.
Samuel Bates Grubbs, A.B.
Charles Alfred Haffner, A.B.
Henry Ewing Hale, Jr., A.B.
James Schermerhorn Hall
Louis Hauswirth, B.S.
Franklin Miller Herman
William Cott Hobdy, B.S.
William Grant Hogg
Fenimore Cooper Hoke
John Horni, Ph.G.
Charles Huber, Ph.G.
Frederick William Huber
Harry Richard Humphries
Edward Livingston Hunt, A.B.
Elon Obed Huntington, B.S.
Augustus Alphonso Hussey, A.B.
Sherwood Bissell Ives, A.B.
Charles Herman Jaeger
Benjamin Yeager Jaudon

Homer Thrall Joy, A.B.
Edgar Collins Joyce
Aspinwall Judd
Morris Nathan Karash
Ernest Kaufman
James Edward Keegan
Charles Platt Knowles
Albert Edward Koonz, D.D.S.
Carl Henry Kroeber
Adrian Van Sinderen Lambert, A.B.
Edward Rutledge Lampson, Jr., A.B.
William Judson Lamson, A.B.
Sidney Locock Lassell, A.B.
George Alfred Lawrence, A.B.
Medwin Leale, A.B.
Prescott Le Breton, A.B.
George Bolling Lee
Oscar Leiser
Arnold Gustave Leo
Hugo Adolph Levison
John Cadwallader Lewis
Eli Long, Jr., A.B.
Arthur Jewett Lougee, A.B.
George Floyd Ludlow
Cecil Laurence MacCoy
James Wright MacNider
John Silliman Macnie, A.B.
Robert Hall McConnell
William Thomas McConvill
Arthur Thomas McCormack, A.B.
Hugh Farber McGaughey, B.S.
Arthur Francis McGinn, A.B.
John Dice McLaren, M.Sc.
Wharton Bird McLaughlin
Thomas William McManus
Frank Wickham Mallalieu, B.S.
Edward Robert Maloney
Leopold Marcus
David Trumbull Marshall
John Miller Masury
William Jay Mersereau
John Izard Middleton, Jr., A.B.
Jesse Preston Miller, A.B.
Augustin Joseph Molloy
Paul Morrison, A.B.
Wesley Thomas Mulligan, Ph.B.
Adolph Mund, Ph.G.
John William Nelson, A.B.
Denwood Norval Livingstone Newbury
Lorenzo Miller Nickerson
Frank Burton Otis, A.B.
Frederic Francis Owens, A.B.
Henry Farrer Owsley, Ph.G.
Frederic Chauncey Paffard
Edward Oliver Parker, A.B.
George Mitchell Parker, A.B.
Jacob Hohanness Parseghian, A.B.
Antonio Davide Pisani, Ph.G.
Nelson Asa Pomeroy
Joseph William Posthauer
Albert Ward Preston, A.B.
William Stewart Reoch, B.P.
Strother William Rice, A.B.
Joseph Roby, A.B.
Albert Vincent Rockwell
Harry Heth Rodman
Mariano Rodriguez, A.B.
John Albert Ronayne, A.B.
Leoncio Ros
Malcolm Cameron Rose, Ph.G.
Clark Green Rossman, C.E.
Solomon Rottenberg, Ph.G.
Thomas Eugene Ryan
Walter Gohring Ryon
Trafford Brasee Salisbury
Philip Michael Schaffner
Robert McEwen Schauffler, A.B.
Michael Schiller, B.S.
Winfield Scott Schley, Jr., A.B.
Charles Henry Schlichter, Ph.G.
Alfred Schwab
Samuel Emanuel Schwartz
John William Scott, A.B.
Ambrose Alfonse Scouler, A.B.
Edgar Calvin Seibert
John Conlay Selby
George Henry Semken
James Bernard Shannon, Jr., A.B.
James Daniel Shea, A.B.
Peter Owen Shea, A.B.
John Lawrence Sheils
Walter Aikman Sherwood
Percy John Shute

Malcolm Toland Sime, C.E.
Daniel Alison Sinclair
Thomas Allison Smith
Paul Frederick Sondern
Victor Steinberger, A.B.
Samuel Stern
Richard Stinson
James Graham Phelps Stokes, Ph.B.
Walter Whitcomb Strang
August Adrian Strasser
Carlyle Edgar Sutphen, Jr., A.B.
Joseph Charles Taylor
Arthur Henry Temple
Arthur Seymour Tenner, A.B.
William Stoutenborough Terriberry, A.B.
Joseph Cheesman Thompson
Josiah Payne Thornley, M.D.
Robert Storer Tracy, A.B.
Guy Hanford Turrell, A.B.
Sidney Ulfelder, A.B.
James Samuel Unger
Herbert Bailey Vail, A.B.
Arthur Ward Van Riper
Albert Myers Van Sickle, Ph.G.
Augustus Baldwin Wadsworth, B.S.
George John Wardenburg, A.B.
John Sherreaf Waters, A.B.
Howard Rankin Weirick, B.S.
Stephen Whitaker Wells
George Oakley Welshman
Charles Allen Whiting, A.B.
James Raynor Whiting, Jr., A.B.
Ernest Nash Wilcox, A.B.
Adrian Dorsey Williams
Edward Temple Willson
Edward Darrah Wisely
Arthur Brownell Wright, A.B.
Andrew Benedict Yard
Harry Augustus Young

[234]

Engineer of Mines

Percy Morris Burrill
Allan Jay Clark
Charles Dräsel
Edwin Chapin Holden, B.S.
Richard Stanislaus McCaffery
William Lytle McConway
Charles Of
Robert Kitching Painter
Richard Alexander Parker, C.E.
Herman Alfred Prosser
Arthur Emil Riedel
William Stevens Thyng

[12]

Civil Engineer

Frederick Auryansen
Edwin Joseph Carney
Charles Derleth, Jr., B.S.
Charles Valentine Hesselbach, A.B.
George Quintard Palmer
Joel Pemoff
Charles Rodenburg
David Charles Serber
Edward De Voe Tompkins

[9]

Electrical Engineer

John Lorillard Arden, Ph.B.
Solomon D. Benoliel, B.S.
Horace Dowie, A.B.
Richard David Godley Jr
Herbert Durand Hawks
George Gustav Heye
Charles Edward Hyatt
Paul MacGahan
Ambrose Monell, Jr.
Charles Langdon Perry
Elliot Mathews Sergeant
Walter Irvine Slichter
Samuel George Fitzhugh Townsend, A.B.
Dana Clemmer Wells, A.B.
George William Lane Woodruff, Ph.B.

[15]

Metallurgical Engineer

Charles Shepard Witherell

[1]

Bachelor of Philosophy

(Course of Analytical and Applied Chemistry)

Joseph Lowenstein
Arthur Metzger
William Cullen Uhlig
Arthur Pine Van Gelder

[4]

Bachelor of Philosophy

(Course of Architecture)

Frederick Lacy Comstock, C.E.
James Musgrave Aertsen Darrach
Lindley Murray Franklin, Jr.
Goldwin Goldsmith
Donald MacGregor
Hardman Philips Alan Montgomery
George Tremaine Morse
Edward Necarsulmer
William Oakley Raymond
Edward Isaac Shire
Henry Stern
William Gabriel Tachau
Max Bernard Toch
Josiah Thomas Tubby, Jr.
Boyd Van Benthuysen
Joseph Van Vleck, Jr.
Albert Ernest Weidinger

[17]

Master of Arts

Arthur Russell Bauder, B.S.
Solomon D. Benoliel, B.S.
James Fuller Berry, A.B.
Marion Stanley Blake, A.B.
John Williams Brady, A.B.
Russell Ely Burke, A.B.
Frank Wadleigh Chandler, A.B.
Thomas Ayres Church, A.B.
Martha Reynolds Clarke, A.B.
Bernard Milton Cone, A.B.
Joseph Germains Charles Cottier, M.E.
Eugene Howell Daly, A.B.
Schuyler Emerson Day, A.B.
William Sanford Evans, A.B.
William Oscar Gennert, A.B.
Felix Mortimer Gernsheim, A.B.
Frederick Christopher Grant, A.B.
Otto Theodore Hess, A.B.
Delos Holden, B.S.
James Cox Howell, A.B.
Cassius Jackson Keyser, B.S.
Chalmers Kilbourn, A.B.
Arthur Kline Kuhn, A.B.
Will David Landis, A.B.
Frederick Houk Law, A.B.
George Alfred Lawrence, A.B., M.D.
Ralph Griffith Levering, A.B.
Campbell Erie Locke, A.B.
James Howard McGregor, B.S.
Simon James McLean, A.B., LL.B.
William Thomas Mason, A.B.
Ernest Carroll Moore, A.B., LL.B.
Elizabeth Frances Nammack, A.B.
Charles Percy O'Connor, B.S.
Max Osterberg, E.E.
Jean Culbert Palmer, A.B.
Edward Russell Perry, A.B.
Henry Perry Pogson, A.B.
Elias Podryabinnick Robinson, B.S.
Henry Clapp Sherman, B.S.
James Franklin Smith, B.S.
Percy Hilton Smith, B.S.
Edward Gleason Spaulding, B.S.
Alice Sterne, A.B., M.C.P.
Amey Talbot Taintor, B.L.
Frank Leo Tufts, A.B.
John Garrett Underhill, A.B.
Henry Ayres Uterhart, A.B.
Henry Gustavus Vick, A.B.
Edward Henry Warren, A.B.
Frederick DeWitt Wells, A.B.
Theodore Greely White, Ph.B.
Elizabeth Sprague Williams, B.S.
Harriet Winfield, A.B.
Joseph Alexander Wright, Ph.B.

[55]

Doctor of Philosophy

William Rosenzweig Arnold, A.B.
Joseph Frederic Berg, A.B.
Harold Jacoby, A.B.
George Herbert Ling, A.M.
Frederic Ludlow Luqueer, A.B.
Lewis Freeman Mott, M.S.
Heinrich Ries, Ph.B., A.M.
William Robert Shepherd, A.M.
Oliver Smith Strong, A.M.
Delos Franklin Wilcox, A.M.
[10]

HONORARY DEGRESS

Master of Arts

Samuel Putnam Avery, Esq.

Doctor of Laws

Charles Custis Harrison, A.M.
Provost of the University of Pennsylvania

FELLOWS AND SCHOLARS

University Fellows

Frank Greene Bates, B.L., Cornell University, 1891.	Subject,	American History
Horace Mann Conaway, A.B., Scio College, 1888. A.B., Ohio University, 1892.	"	European History
Joseph Germains Charles Cottier, M.E., Stevens Institute of Technology, 1895.	"	Mechanics
Henry Edward Crampton, Jr., A.B., Columbia University, 1893.	"	Zoölogy
Charles Franklin Emerick, A.B., Wittenburg College, 1889; A.M., 1892. M.S., Michigan Agricultural College, 1891. Ph.M., Michigan University, 1895.	"	Economics
Abraham Howry Espenshade, A.B., Wesleyan University, 1894.	"	English
Shepherd Ivory Franz, A.B., Columbia University, 1894.	"	Psychology
Frederick Smith Hall, A.B., Wesleyan University, 1893.	"	Finance
Frederick Berg Hartranft, A.B., Columbia University, 1894.	"	Public Law

Anselm Vinet Hiester, B.S., Lebanon Valley College, 1887. A.B., Franklin and Marshall College, 1889.	Subject,	Sociology
Cassius Jackson Keyser, B.S., Missouri State University, 1891.	"	Mathematics
William Herbert King, B.S., Massachusetts Institute of Technology, 1894. A.B., Harvard University, 1896.	"	Municipal Administration
James Howard McGregor, B.S., Ohio State University, 1894.	"	Zoölogy
Leonard Beecher McWhood, A.B., Columbia University, 1893.	"	Psychology
Walter Taylor Marvin, A.B., Columbia University, 1893.	"	Philosophy
David Hale Newland, A.B., Hamilton College, 1894.	"	Geology
Per Axel Rydberg, B.S., University of Nebraska, 1891 ; A.M., 1895.	"	Botany
Frank Schlesinger, B.S., College of the City of New York, 1890.	"	Astronomy
Henry Clapp Sherman, B.S., Maryland Agricultural College, 1893.	"	Chemistry
Francis Raymond Stark, A.B., St. Francis Xavier College, 1893 ; A.M., 1894.	"	International Law
William Thomas Ferguson Tamblyn, A.B., Toronto University, 1895.	"	Latin
Joseph Russell Taylor, A.B., Ohio State University, 1887.	"	Literature
Frank Leo Tufts, B.S., Antioch College, 1891 ; A.M., 1894. A.B., Harvard University, 1894.	"	Physics
Newton Foster Vail, A.B., Hobart College, 1890. A.B., Yale University, 1892.	"	Latin
Adna Ferrin Weber, Ph.B., Cornell University, 1894.	"	Economics and Social Science

Barnard Fellows

1893–96

William Lispenard Robb, Ph.D.

1896–97

Not awarded

Alumni Association Fellows

(College of Physicians and Surgeons)

1892–94

Frederick J. Brockway, M.D.
William H. Park, M.D.
Alexander Lambert, M.D.

1894–96

Frederick J. Brockway, M.D.
Richard H. Cunningham, M.D.
William S. Stone, M.D.

1896–98

Joseph A. Blake, M.D.
Richard H. Cunningham, M.D.
Charles Norris, M.D.

Seligman Fellows

1891–92

William Bondy
S. W. Dunscomb, Jr.
F. L. Eckerson
S. F. Weston
I. A. Hourwich

1892–94

F. A. Wood
R. M. Breckenridge

1894–95

George C. Sikes, A.M.

1895–96

George C. Calvert

1896–97

William Clarence Webster, A.B.

Henry Drisler Fellows

1895–96

John Kasson Lathrop, A.B.

1896–97

George N. Olcott, A.B.

John Tyndall Fellows

1891–92

William Horatio Freedman, C.E., E.E.

1892–95

Charles Riborg Mann, A.M.

1895–97

Walter Wheeler Cook, A.B.

McKim Fellows

1891–92

Adolfo Carlos Munoz del Monte, Ph.B., A.B., C.E.
Alexander MacMillan Welch, Ph.B.

1893–94

William Lincoln Thorne, Ph.B.
George Oakley Totten, Jr., Ph.B., A.M.

1895–96

John Russell Pope, Ph.B.

Columbia Fellows

1890–91

Arthur Alexander Stoughton, Ph.B.

1892–93

Horace Borchsenius Mann, Ph.B.

1894–95

Seth Justin Temple, Ph.B.

1896–97

William Kinne Fellows, Ph.B.

Class of '70 Fellow

Lewis Buffet Carll, A.M.

Annual Fellow

James Bronson Reynolds, A.B.

President's University Scholars

Roger Lewis Conant,
A.B., Columbia University, 1895. Subject, Latin

William Dunlap Moore,
A.B., Yale University, 1895. " Political Science

University Scholars

Thomas Coleman,
A.B., Marietta College, 1893. Subject, Political Science

Bradney Beverley Griffin,
B.S., College of the City of New York, 1894. " Zoölogy

Abel Joel Grout,
Ph.B., University of Vermont, 1893. " Botany

Charles Judson Herrick,
B.S., University of Cincinnati, 1891.
M.S., Dennison University, 1895. " Neurology

Henry Eugene Houston,
A.B., Columbia University, 1895. " Psychology

Francis William Howard,
A.B., Niagara University, 1887. " Sociology

Marshall A. Howe,
Ph.B., University of Vermont, 1890. " Botany

Gardner Kirk Hudson,
A.B., Brown University, 1896. " Political Science

John Duer Irving,
A.B., Columbia University, 1896. " Geology

Samuel Carlyle Johnston,
A.B., 1884; A.M., 1887, Colgate University. " Greek

Adam Leroy Jones,
A.B., Williams College, 1895. " Philosophy

Walter Coluzzi Kretz,
A.B., Columbia University, 1896. " Astronomy

Milo Roy Maltbie,
Ph.B., Upper Iowa University, 1892.
Ph.M., Northwestern University, 1893. " Administrative Law

James Mitchell,
A.B., Alma College, 1893. " History

Frederick Clark Paulmier,
B.S., Princeton University, 1984. " Zoölogy

William Popper,
A.B., Columbia University, 1896. Subject, Semitic Languages
Corliss Fitz Randolph,
A.B., A.M., Alfred University, 1888. " Latin
Frederick Newton Raymond,
A.B., University of Kansas, 1896. " Literature
Arthur Frank Joseph Remy,
A.B., College of the City of New York, 1890. " Comparative Philology
William August Schaper,
B.L., University of Wisconsin, 1895. " Economics
Samuel Swayze Seward, Jr.,
A.B., Columbia University, 1896. " Literature
Clement Moore Lacey Sites,
A.B., 1887; A.M., 1890, Ohio Wesleyan University. " Political Science
Edward Gleason Spaulding,
B.S., University of Vermont, 1894. " Physics
William Ransom Tuttle,
A.B., Olivet College, 1894. " Sociology
Ansel Augustus Tyler,
A.B., 1892; A.M., 1895, Lafayette College. " Botany
William Morrow Washington,
B.S., Centre College, Ky., 1895. " Ethics
Elmer Ottis Wooton,
B.S., 1889; A.M., 1896, Earlham College. " Botany

THE COLLEGE

AWARD OF PRIZES AND HONORS IN

Chanler Historical Prize

1893	1894
Abraham Bijur	Walter H. Liebmann
1895	1896
Rudolf Neeser	Albert R. Lesinsky

Prizes of the Alumni Association

1893	1894
Edward Peale MacMullen	Frederic Ludlow Luqueer
1895	1896
John Driscoll Fitz-Gerald, 2d.	Richard Weil

English Seminary Prize of the Society for Promoting Religion and Learning.

1891
Robert Bootman Kimber

Prize Scholars and Honor Men

1893

JUNIOR CLASS

Greek, Frederic Ludlow Luqueer
Latin, Harold Sharpe Emerson
English, Herbert McLeod Johnstone
Mechanics, Walter Wheeler Cook
Physics, Walter Wheeler Cook

SOPHOMORE CLASS

Greek, William Oscar Gennert
Latin, William Dana Street
History, Maulsby Kimball
Chemistry, James Naumburg Rosenberg

FRESHMAN CLASS

Greek, Isidorus Ross
Latin, Richard Weil
Rhetoric, Richard Weil
Mathematics, Isidorus Ross

HONOR MEN OF THE SENIOR CLASS, 1893

New Testament Greek, John Lovett Rile, Jr.
Classic Greek, William Addison Hervey
Greek Art, Frederic Edgar Underhill
Latin, George N. Olcott, Wilfrid Lay, Sanford Louis Rotter
English I., George Lawrence Myers
English III., William Addison Hervey
English IV., Herbert Treadwell Wade
English VI., Middleton Smith Borland
English VII., Leonard Beecher McWhood
English VIII., Stephen Henry Keating
English IX., Stephen Henry Keating
English XI., Stephen Henry Keating
Literature I., Stephen Henry Keating
Political Philosophy, William Robert Shepherd
German (Faust), William Addison Hervey
Iranian I., Casper Levias
French Literature of 17th Century, Edward Peale MacMullen
Italian 2d year, George N. Olcott
Political Economy, William Robert Shepherd
Constitutional History of England, Stephen Henry Keating
Constitutional History of Europe and the United States, William Robert Shepherd
Ethics, Walter Taylor Marvin
Practical Astronomy, Walter Taylor Marvin
Botany, Henry Edward Crampton, Jr.
Physics, Joseph Bijur, Samuel George Fitzhugh Townsend, Arthur Charles Kletzch
Chemistry, Leffert Lefferts, Herbert Treadwell Wade, Dana Clemmer Wells
Anatomy, Fred Templeton Zabriskie
Experimental Psychology, Leonard Beecher McWhood
History of Philosophy, Walter Taylor Marvin

1894

FINAL HONORS

English, Herbert McLeod Johnstone
History, Clarence Bishop Smith
Philosophy, Frederic Ludlow Luqueer
Political Economy, Clarence Bishop Smith

1895

FINAL HONORS

English, Joel Elias Spingarn

JUNIOR HONORS

English, Alfred Louis Kroeber, Robert Glenn McCrea, Joseph Meyer Proskauer
Modern Languages, Albert Ralph Lesinsky
Mathematics, Robert Austen McCulloch
Physics and Chemistry, Granville Ingraham Burr

1896

FINAL HONORS

History, Albert Ralph Lesinsky
Romance Languages, Albert Ralph Lesinsky
Mathematics, Walter Coluzzi Kretz
Biology and Botany, Richard Weil

JUNIOR HONORS

Mathematics, Morris Lincoln Strauss
Physics and Chemistry, Eugene Carroll Brown

SOPHOMORE HONORS

Mathematics, John Fulton Berrien Mitchell, Jr., Robert King Morse, Alvan Alonzo Tenney
Classics, Franklin Zeiger

Alumni Competitive Scholars

1893

Frank Hoag Brooks

1894

George Richard Jacobus

1895

George Sidney Hellman

1896

Harry Hull St. Clair, Jr.

Brooklyn Scholars

1896

Henry Sydnor Harrison
Robert Chipman Hull
Charles Jones Ogden

DIRECTORY OF STUDENTS

The small italic letters affixed to students' names indicate the schools in which they are primarily registered—as follows :

c College.
l School of Law.
m School of Medicine.
p School of Pure Science.
ph School of Philosophy.
pl School of Political Science.
s Schools of Mines, Chemistry, Engineering, and Architecture.

(Addresses other than those in New York City are enclosed in parentheses.)

NAME	RESIDENCE	CITY ADDRESS
Abbe, Truman, *m*	*New York City*	389 West End ave.
Abbott, Theodore Jacob, *m*	*Brooklyn, N. Y.*	(110 Columbia Heights)
Abramovich, Oscar, *s*	*New York City*	211 West 62d st.
Acken, George Alonzo, *c*	*Haworth, N. J.*	2 West 14th st.
Acton, Harry Wagner, *s*	*Saybrook, Conn.*	82 West 132d st.
Adams, Alva Blanchard, *l*	*Pueblo, Col.*	125 East 54th st.
Adams, Charles Baker, *m*	*Amherst, Mass.*	824 Lexington ave.
Adams, Edward, *m*	*Stamford, Conn.*	
Adams, Ernest Kempton, *s*	*New York City*	455 Madison ave.
Addoms, Lewis Paddock, *m*	*Brooklyn, N. Y.*	(270 McDonough st.)
Addy, Arthur Rockwell, *m*	*New York City*	10 West 65th st.
Adler, Marion Samuel, *m*	*New York City*	79 Stanton st.
Adler, Maximillian Louis, *m*	*New York City*	26 West 120th st.
Agatstein, Sigmund, *m*	*New York City*	108 East 90th st.
Alexander, Bernard, *l*	*New York City*	105 East 96th st.
Alexander, David Esterbrook, *m*	*New York City*	20 East 131st st.
Alger, William Gaul, *ph*	*New York City*	1273 Madison ave.
Allee, William Hanford, Jr., *m*	*Brooklyn, N. Y.*	(402 Vanderbilt ave.)
Allen, Cleveland, *s*	*New York City*	28 West 83d st.
Allen, William Thomas, *m*	*Brooklyn, N. Y.*	(154 Lorimer st.)
Allison, William, *c*	*Yonkers, N. Y.*	
Alsberg, Carl Lucas, *m*	*New York City*	169 East 116th st.
Alsberg, Henry Garfield, *c*	*New York City*	169 East 116th st.
Alsberg, Julius, *c*	*New York City*	169 East 116th st.
Ambler, Nathan Babcock, *s*	*Chatham, N. Y.*	344 West 33d st.
Anderson, Abram Ellsworth, *p*	*Brooklyn, N. Y.*	(916 Greene ave.)
Anderson, Ellery Oswald, *c*	*New York City*	141 East 34th st.

NAME	RESIDENCE	CITY ADDRESS
Anderson, Walter Frederick, *s*	*East Orange, N. J.*	
Andrews, Alexander Speer, *l*	*Zanesville, O.*	140 West 57th st.
Anthon, George Christian, *s*	*New York City*	13 West 35th st.
Anthony, Charles Leonard, *m*	*New York City*	220 East 123d st.
Appel, Hermann Nehemiah, *m*	*Brooklyn, N. Y.*	(193 Schaeffer st.)
Aquaro, John, *m*	*New York City*	68 Crosby st.
Arbuthnot, Thomas Shaw, *m*	*Pittsburg, Pa.*	216 West End ave.
Arendt, Morton, *s*	*New York City*	42 West 126th st.
Armstrong, Edward Maitland, *s*	*New York City*	58 West 10th st.
Armstrong, William Buckingham, *m*	*Atlanta, Ga.*	
Arnold, Henry Newton, *l*	*New York City*	101 West 78th st.
Arnold, William Boss, *l*	*North Adams, Mass.*	127 West 48th st.
Arnstein, Leo, *pl*	*New York City*	16 East 75th st.
Aronson, Edward Aaron, *m*	*New York City*	241 East 116th st.
Atterbury, Lawrence, *l*	*New York City*	141 West 86th st.
Austin, Chellis Asahel, *c*	*Canton, N. Y.*	56 West 49th st.
Averill, Morton Knight, *c*	*New York City*	7 West 120th st.
Aylmer-Small, Charles Sidney, *s*	*New York City*	161 West 15th st.
Babcock, Woodward, *c*	*New York City*	21 West 49th st.
Backus, Grosvenor Hyde, *l*	*Brooklyn, N. Y.*	(57 Livingston st.)
Bacon, Holcombe, *l*	*Atlanta, Ga.*	
Bacon, Ray, *l*	*Port Norris, N. J.*	589 Lexington ave.
Baese, Charles Otto, *pl*	*New York City*	93 Second ave.
Bahret, James Lincoln, *ph*	*Poughkeepsie, N. Y.*	41 East 69th st.
Bailey, Frederick Randolph, *m*	*Elizabeth, N. J.*	
Bailey, Theodorus, *m*	*New York City*	118 West 74th st.
Baird, Addison Waddell, *m*	*New York City*	239 West 70th st.
Baker, Charles Adkins, *c*	*New York City*	294 Manhattan ave.
Baker, John Lockwood, *m*	*Brooklyn, N. Y.*	(699 Putnam ave.)
Ball, Wilbur Laing, *l*	*New York City*	29 East 46th st.
Ballin, Milton, *m*	*New York City*	73 East 91st st.
Bamberger, Raymond Sidney, *m*	*Louisville, Ky.*	Hotel Tecumseh
Banks, Wesley Tarver, *m*	*Enon, Ala.*	1353 Fifth ave.
Banta, Edward Woodruff, *m*	*New York City*	157 West 14th st.
Barclay, Harold, *m*	*New York City*	37 West 46th st.
Barclay, James Searle, Jr., *m*	*New York City*	56 East 49th st.
Barcus, James S., *l*	*New York City*	597 West End ave.
Bard, Ernest Robinson, *s*	*New York City*	273 West 11th st.
Bard, Sidney White, *s*	*New York City*	273 West 11th st.
Barker, Stephen, *c*	*New York City*	160 West 59th st.
Barnard, Lawrence Llewellyn, *s*	*Westerville, O.*	447 Lexington ave.
Barnes, George Edward, *m*	*Herkimer, N. Y.*	5 West 63d st.
Barnes, Henry Burr, Jr., *l*	*New York City*	5 East 44th st.
Barnes, Walter Clymer, *s*	*Paterson, N. J.*	(505 Broadway)
Barnett, Edward Leroy, *m*	*Brushton, N. Y.*	112 West 63d st.

NAME	RESIDENCE	CITY ADDRESS
Barrett, Eugene Thompson, *l*	*Oxford, Kan.*	
Barrows, David Prescott, *pl*	*Claremont, Cal.*	26 East 104th st.
Barry, Thomas Joseph, *m*	*New York City*	137 East 49th st.
Barshell, Samuel, *m*	*New York City*	336 East 71st st.
Bartberger, Edward William, *s*	*Pittsburg, Pa.*	68 West 49th st.
Barton, Francis William, *m*	*Danville, Ill.*	
Bastedo, Walter Arthur, *m*	*New York City*	578 Fifth ave.
Batcheller, Franklin Alden, *c*	*New York City*	44 Fifth ave.
Bates, Frank Greene, *pl*	*Summit, R. I.*	139 East 27th st.
Bates, Louis William, *s*	*Brooklyn, N. Y.*	(583 Carlton ave.)
Bates, Putnam Asbury, *s*	*New York City*	113 West 72d st.
Batman, Levi Gordon, *pl*	*Bloomington, Ind.*	41 East 69th st.
Bauchle, George Young, *l*	*New York City*	318 West 56th st.
Baumann, Albert Philip, *s*	*New York City*	228 East 52d st.
Baumgarten, William Edward, *s*	*New York City*	826 Morris ave.
Bavendam, Ahrend, Jr., *s*	*Brooklyn, N. Y.*	(340 Greene ave.)
Baxter, David Elder, *s*	*New York City*	32 West 60th st.
Baxter, Wyllys Pomeroy, *l*	*Montclair, N. J.*	(121 Chestnut st.)
Bayles, Edwin Atkinson, *l*	*Orange, N. J.*	(408 Main st.)
Bayles, Howard, *m*	*White Plains, N. Y.*	
Beach, George Raimes, *l*	*Jersey City, N. J.*	121 West 69th st.
Beadel, Henry Ludlow, *s*	*New Brighton, N. Y.*	120 Front st.
Beal, Arthur Washington, *s*	*Brooklyn, N. Y.*	
Beard, Anson McCook, *l*	*Poughkeepsie, N. Y.*	5 East 41st st.
Beard, William Mossgrove, *l*	*Poughkeepsie, N. Y.*	5 East 41st st.
Beatty, Alfred Chester, *s*	*New York City*	3 East 9th st.
Bebee, Edwin Lorendus, *m*	*Sing Sing, N. Y.*	
Bechtel, George, *pl*	*Stapleton, N. Y.*	
Beck, Oscar Charles, *s*	*New York City*	45 St. Mark's pl.
Becker, Louis, *l*	*New York City*	506 West 157th st.
Becker, Randolph Milton, *m*	*New York City*	8 West 117th st.
Beebe, Charles William, *p*	*East Orange, N. J.*	
Beekman, William Fenwick, *s*	*New York City*	35 West 17th st.
Beer, Edwin, *m*	*New York City*	38 West 77th st.
Belcher, Herbert James Blauvelt,	*m Paterson, N. J.*	(665 East 29th st.)
Belden, William Allen, *s*	*New York City*	318 West 78th st.
Bell, Clarence Francis, *s*	*New York City*	1204 Boston ave.
Bell, Clinton Edward, *l*	*New York City*	17 East 46th st.
Bellman, John Jacob, *s*	*New York City*	90 King st.
Benedict, Eli, *s*	*New York City*	167 West 71st st.
Benedict, Elliot Stewart, *l*	*New York City*	14 East 70th st.
Benedict, James Doolittle, *l*	*Denver, Col.*	
Benjamin, Max, *m*	*New York City*	223 East 126th st.
Bennett, David Criswell, Jr., *l*	*Brooklyn, N. Y.*	(79th st. and 4th ave.)
Bennett, George Lewis, *s*	*Brooklyn, N. Y.*	(208 Putnam ave.)
Bennett, Reginald Sidney, *m*	*Finton Falls, N. J.*	10 West 65th st.

NAME	RESIDENCE	CITY ADDRESS
Bentley, Wray Annin, *s*	*Brooklyn, N. Y.*	(1228 Fulton ave.)
Bernstein, Eugene Paul, *m*	*New York City*	227 East 116th st.
Bero, Edward John, *m*	*New York City*	259 Henry st.
Berry, Leonard Cassell, *m*	*Lexington, Ky.*	341 West 59th st.
Bewer, Julius Augustus, *ph*	*New York City*	162 East 82d st.
Bieber, Joseph, *m*	*New York City*	4 Columbia pl.
Bigelow, Frank Hoffnagel, *ph*	*Bristol, Vt.*	700 Park ave.
Bigelow, Richard, *s*	*Ridgewood, N. J.*	
Bigham, Henry John, *l*	*New York City*	1240 Lexington ave.
Bijur, Samuel Henry, *c*	*New York City*	46 East 73d st.
Bingham, Arthur Walker, *m*	*West Cornwall, Vt.*	129 West 64th st.
Bingham, Lee Mansfield, *c*	*New York City*	73 West 92d st.
Birckhead, Hugh McCulloh, *c*	*Newport, R. I.*	441 Park ave.
Birckhead, James, *m*	*New York City*	441 Park ave.
Bird, Harrison Kerr, *s*	*New York City*	1 East 39th st.
Bishop, Ogden Mills, *s*	*New York City*	881 Fifth ave.
Bishop, Reed Raymond, *s*	*New York City*	311 West 54th st.
Bishop, William Samuel, *pl*	*New York City*	34 Varick st.
Bissell, Philip, *c*	*New York City*	26 West 47th st.
Black, John Fielding James, *m*	*Dublin, Ireland*	
Blackmar, John Stanton, *m*	*Norwich, Ct.*	143 West 61st st.
Blake, James Eddy, *m*	*Brooklyn, N. Y.*	(352 Jefferson ave.)
Blass, Barney, *m*	*New York City*	54 Division st.
Bleick, Theodore Edward, *m*	*Newark, N. J.*	(246 Charlton st.)
Blodgett, Henry William, *s*	*St. Louis, Mo.*	145 West 48th st.
Blondel, Theodore, Jr., *s*	*New York City*	548 Mott ave.
Blum, Edward, *s*	*New York City*	1919 Madison ave.
Blumenthal, Jules Leon, *m*	*New York City*	341 West 58th st.
Bodine, Louis Albert Sayre, *m*	*New York City*	706 St. Nicholas ave.
Bodkin, Dominic George, *m*	*Brooklyn, N. Y.*	(999 De Kalb ave.)
Boehm, George Abraham, *s*	*New York City*	33 West 89th st.
Boehm, George Nathan, *l*	*New York City*	130 East 78th st.
Boehm, Henry Abraham, *s*	*New York City*	33 West 89th st.
Boerner, Emil Christian, Jr., *s*	*Port Chester, N. Y.*	
Bogert, Theodore Lawrence, *c*	*Flushing, N. Y.*	56 East 49th st.
Bogue, Morton Griswold, *c*	*Brooklyn, N. Y.*	(836 Union st.)
Bolte, Hermann Augustus, *l*	*New York City*	18 East 109th st.
Bonnell, Clarence Hornbeck, *m*	*Port Jervis, N. Y.*	(86 East Main st.)
Bonynge, Paul, *l*	*New York City*	(Gray st. and Crane pl., Tremont)
Bookman, Arthur, *c*	*New York City*	9 East 62d st.
Booraem, Alfred Wreaks, *l*	*Brooklyn, N. Y.*	48 West 82d st.
Boote, Charles William, *c*	*Yonkers, N. Y.*	(128 Webster ave.)
Borden, Matthew Sterling, *m*	*New York City*	137 West 64th st.
Borg, Walter Bennett, *c*	*New York City*	4 East 68th st.
Bostwick, William Arthur, *s*	*New York City*	324 West 46th st.

NAME	RESIDENCE	CITY ADDRESS
Bowman, Dennis Evarts, *l*	*Eureka, Me.*	
Bowman, Harold Hosford, *c*	*Montclair, N. J.*	38 Park row
Bowman, James Floyd, *c*	*Montclair, N. J.*	(130 Grove st.)
Boyd, August Samuel, *m*	*New York City*	363 West 56th st.
Boyd, Edward Armstrong, *m*	*New York City*	880 St. Nicholas ave.
Boyd, James Edward, Jr., *l*	*Omaha, Neb.*	
Boyd, John Dalzell, *s*	*New York City*	308 West 73d st.
Boyesen, Hjalmar Hjorth, *c*	*Southampton, N. Y.*	23 East 77th st.
Brackett, George Sylvester, *s*	*Cumberland, Md.*	
Bradford, Charles Clay, *ph*	*Moreymore, Ireland*	41 East 69th st.
Bradin, Edward De Lancy, *m*	*Newark, N. J.*	
Bradley, William Aspenwall, *c*	*New York City*	683 East 138th st.
Bradner, Frederick Clark, *m*	*Warwick, N. Y.*	438 West 57th st.
Brady, Frederick Luther, *m*	*New York City*	
Brandeis, Julian Walter, *m*	*New York City*	113 East 122d st.
Brandt, Oscar Rutherford, *l*	*Kingsbridge, N. Y.*	
Breckwedel, Harry Benjamin, *m*	*New York City*	315 West 48th st.
Bresler, Max, *m*	*New York City*	177 Allen st.
Brewster, John Hull, Jr., *l*	*Rochester, N. Y.*	
Briggs, Walter Preston, *s*	*New York City*	2301 Seventh ave.
Brill, Abraham, *m*	*New York City*	32 Avenue C
Brinsmade, Daniel Bradley, *m*	*Washington, Ct.*	
Briody, James Francis, *m*	*Paterson, N. J.*	
Britton, Winchester, *c*	*Brooklyn, N. Y.*	(864 Carroll st.)
Brodt, Philip Ernest, *c*	*Geneseo, N. Y.*	117 West 55th st.
Brooke, William Wallace, *m*	*Bayonne, N. J.*	(915 Avenue C)
Brooks, Frank Hoag, *c*	*New York City*	142 West 103d st.
Brophy, William Augustine, *m*	*New York City*	134 West 61st st.
Bross, William Warren, *c*	*Montclair, N. J.*	
Brower, Frederick Webber, Jr., *s*	*New York City*	50 West 69th st.
Brown, Alexander Morrison, *s*	*New York City*	245 West 54th st.
Brown, Caxton, *s*	*New York City*	301 West 77th st.
Brown, Edward Manning, *m*	*Springfield, Mass.*	346 West 58th st.
Brown, Herbert Doty, *s*	*New York City*	9 West 129th st.
Brown, Hugh Auchincloss, *s*	*Rutherford, N. J.*	
Brown, Thomas Evans Westman *m*	*Asheville, N. C.*	
Browne, Valentine Joseph, *m*	*Yonkers, N. Y.*	
Brueninghansen, Herbert Washington, *c*	*Brooklyn, N. Y.*	(682 President st.)
Bryan, Robert Coalter, *m*	*Richmond, Va.*	117 Cedar st.
Bryant, Mortimer Drake, *s*	*Brooklyn, N. Y.*	(539 Bedford ave.)
Bryant, Robert Rindell, *m*	*High Bridge, N. J.*	(Main st.)
Bryant, William Bernard, *s*	*Brooklyn, N. Y.*	(539 Bedford ave.)
Bryson, Edwin Rodell, *l*	*Corvallis, Ore.*	138 Lexington ave.
Buchtel, Frost Craft, *c*	*Indianapolis, Ind.*	(18 First ave., Mt. Vernon)
Buck, Victor Buchanan, Jr., *s*	*Kansas City, Mo.*	Hotel Netherland
Buckingham, Tracy Sturges, *s*	*Brooklyn, N. Y.*	(167 State st.)

NAME	RESIDENCE	CITY ADDRESS
Buckley, Charles Frederick, *m*	*Brooklyn, N. Y.*	(802 Carroll st.)
Bulkley, Lucius Constant, *c*	*New York City*	4 East 37th st.
Bullard, Frederic Lewis, *c*	*New York City*	302 Madison ave.
Bullwinkle, Franklin, *m*	*Brooklyn, N. Y.*	(433 Franklin ave.)
Burdette, William Day, *m*	*Fairview, N. J.*	
Burgess, Maynard Gooding, *m*	*Havana, Cuba*	335 West 58th st.
Burke, Charles Clinton, Jr., *c*	*New York City*	17 East 55th st.
Burke, Edmund, *ph*	*New York City*	156 East 48th st.
Burkhalter, Robert Proseus, *l*	*Galesburg, Ill.*	67 West 48th st.
Burnett, Levi Herr, *l*	*Springfield, O.*	69 West 49th st.
Burns, Dawson Jabez, *s*	*Brooklyn, N. Y.*	(481 Putnam ave.)
Burns, William Gibson, *s*	*Brooklyn, N. Y.*	(481 Putnam ave.)
Burnside, Charles Howard, *s*	*Oskaloosa, Ia.*	447 Lexington ave.
Burroughs, Harris Sutton, *s*	*Brooklyn, N. Y.*	(1416 Pacific st.)
Burrows, Frederick Rhodes, *l*	*Cleveland, O.*	47 West 49th st.
Burrows, Louis Worcester, *l*	*Cleveland, O.*	47 West 49th st.
Burton, Oscar Augustus, *m*	*Alden, Minn.*	127 West 64th st.
Busby, Archibald Henry, *m*	*Rochester, N. Y.*	126 West 64th st.
Byers, Mortimer Wardle, *l*	*Brooklyn, N. Y.*	(73 Herkimer st.)
Byington, Roderick, Jr., *m*	*New York City*	150 West 66th st.
Cabaniss, Joseph Warren, Jr., *c*	*Macon, Ga.*	
Cable, Benjamin Stickney, *l*	*Chicago, Ill.*	10 East 32d st.
Cabot, John, Jr., *s*	*New York City.*	168 West 48th st.
Cahn, Emanuel Siegfried, *l*	*New York City*	161 East 79th st.
Cairns, Bayard Snowden, *s*	*New York City*	40 Grove st.
Caldwell, Robert Templemon, *pl*	*Danville, Ky.*	700 Park ave.
Calhoun, William Caldwell, *m*	*New York City*	7 Hamilton terrace
Calkins, Gary Nathan, *p*	*New York City*	Hotel Beresford
Cameron, Walter Scott, *s*	*New York City*	239 West 136th st.
Campbell, Alexander James, *s*	*Sausalito, Cal.*	50 West 51st st.
Campbell, Clarence Wellington, *m*	*New York City*	314 East 18th st.
Campbell, Edward Flint, *s*	*Larchmont, N. Y.*	
Campbell, Horace, *m*	*College Park, Cal.*	325 West 58th st.
Camphor, Alexander Priestly, *pl*	*Orange, N. J.*	
Cane, Melville Henry, *c*	*New York City*	62 East 80th st.
Cardozo, Ernest Abraham, *c*	*New York City*	45 East 65th st.
Carhart, George Arthur, *m*	*Milwaukee, Wis.*	346 West 58th st.
Carleton, Spencer, *m*	*New York City*	62 West 49th st.
Carmalt, James Welton, *l*	*Scranton, Pa.*	
Carmiencke, Albert Greenleaf, *ph*	*New York City*	410 West 23d st.
Carpenter, Henry Cannon, *s*	*New York City*	113 East 69th st.
Carruthers, Louis John, *l*	*Brooklyn, N. Y.*	(130 Macon st.)
Carter, Walter Frederick, *l*	*Brooklyn, N. Y.*	96 Broadway
Casamajor, Walter, *s*	*Brooklyn, N. Y.*	(372 Greene ave.)
Case, George Bowen, *l*	*Kansas City, Mo.*	

NAME	RESIDENCE	CITY ADDRESS
Cassard, William John, Jr., *s*	*New York City*	139 West 70th st.
Cassebeer, Henry Arthur, *m*	*New York City*	205 West 70th st.
Caswell, Kenneth Lincoln, *s*	*New York City*	114 East 31st st.
Catlin, George de Grasse, *c*	*Brooklyn, N. Y.*	50 West 51st st.
Cauthers, James Britton, *l*	*New York City*	857 Lexington ave.
Celler, Herbert Louis, *m*	*New York City*	61 West 94th st.
Chandler, Frank Wadleigh, *ph*	*Brooklyn, N. Y.*	
Chapman, Howard, *s*	*Brooklyn, N. Y.*	(160 Hicks st.)
Charlton, Herbert Richard, *m*	*Mt. Vernon, N. Y.*	
Chase, John Hildreth, *s*	*Bellows Falls, Vt.*	632 Lexington ave.
Chatain, Henri George Francis James, *s*	*New York City*	47 West 71st st.
Cherry, William Samuel, *m*	*New York City*	244 West 71st st.
Chibas, Louis Floro, *s*	*Guantánamo, Cuba*	143 West 43d st.
Child, Howard Proctor, *m*	*New York City*	308 West 42d st.
Childs, Herbert Howard, *c*	*New York City*	8 East 54th st.
Chisholm, Charles Bishop, *l*	*Bozeman, Mont.*	47 East 21st st.
Chivers, Edgar Eynon, *m*	*Brooklyn, N. Y.*	(462 Greene ave.)
Cimiotti, Walter Frank, *m*	*New York City*	221 Second ave.
Claflin, Edward Scott, *ph*	*Cleveland, O.*	41 East 69th st.
Clapp, Walter Nicholas, *c*	*Hempstead, N. Y.*	
Clark, Abram Schuyler, *m*	*New Brunswick, N. J.*	(13 Kirkpatrick st.)
Clark, Charles Martin, *s*	*New York City*	831 Madison ave.
Clark, Harrison, Jr., *c*	*New York City*	318 West 82d st.
Clark, James Bayard, *m*	*Elizabeth, N. J.*	
Clark, Josiah Huntoon, *s*	*Paterson, N. J.*	
Clarke, Arthur Vernon, *m*	*St. Andrews, Can.*	128 West 61st st.
Clarke, Henry Elisha, *m*	*Newburgh, N. Y.*	138 West 61st st.
Clarke, William Cogswell, *m*	*Tenafly, N. J.*	
Clarke, William Joseph, *c*	*New York City*	148 East 45th st.
Clinch, Edward Sears, Jr., *s*	*New York City*	133 West 121st st.
Cluff, Frederick Hassard, *c*	*Brooklyn, N. Y.*	(309 Garfield pl.)
Coan, Philip Munson, *c*	*New York City*	67 East 54th st.
Cochran, Guy Hunt, *m*	*Los Angeles, Cal.*	50 West 51st st.
Cochrane, Frank Lawrence, *m*	*Brooklyn, N. Y.*	(830 Butler st.)
Coffee, Rudolph Isaac, *c*	*Oakland, Cal.*	736 Lexington ave.
Coffin, Herbert Lawton, *l*	*New York City*	142 East 18th st.
Coffin, Tristram Roberts, *s*	*New York City*	258 West 72d st.
Cogan, Henry Manning, *s*	*Bay Ridge, N. Y.*	
Cohen, Martin, *m*	*New York City*	138th st. and Amsterdam ave.
Cohn, Alfred Einstein, *c*	*New York City*	64 East 66th st.
Cohn, David, *l*	*Paterson, N. J.*	(83 Auburn st.)
Cohn, Maurice, *l*	*Paterson, N. J.*	(P. O. Box 309)
Cohn, Simeon Edward, *s*	*New York City*	101 East 61st st.
Cole, Lewis Gregory, *m*	*Brooklyn, N. Y.*	(861 President st.)
Coleman, Daniel Ephran Sickles, *m*	*New York City*	Madison Ave. Hotel

NAME	RESIDENCE	CITY ADDRESS
Coleman, Thomas, *pl*	*Muses Bottom, W. Va.*	129 Lexington ave.
Collins, Clarence Lyman, 2d, *s*	*New Haven, Conn.*	(323 Palisade ave., Yonkers)
Collins, John James, *m*	*New York City*	
Collins, Timothy Charles, *pl*	*North Adams, Mass.*	447 West 57th st.
Comstock, William Williams, *c*	*New York City*	523 West 156th st.
Conant, Roger Lewis, *ph*	*Brooklyn, N. Y.*	
Conaway, Horace Mann, *pl*	*Athens, O.*	116 East 53d st.
Cone, Bernard Milton, *l*	*Baltimore, Md.*	116 West 74th st.
Congdon, Herbert Wheaton, *s*	*Brooklyn, N. Y.*	(194 Clinton st.)
Connell, Edward Joseph, Jr., *m*	*Bedford Park, N. Y.*	
Connolly, Francis Edward, *m*	*Brooklyn, N. Y.*	(795 Lafayette ave.)
Conover, John Hamilton Potter, *m*	*South Amboy, N. J.*	137 West 64th st.
Conover, John Thompson, *s*	*New York City*	324 West 19th st.
Conville, John Joseph, *l*	*New York City*	145 East 45th st.
Cook, Harry Randell, *c*	*Orange, N. J.*	
Cooke, Walter Evans, *l*	*Paterson, N. J.*	
Cooley, Alford Warriner, *l*	*West Chester, N. Y. C.*	
Cooley, Herbert Sutherland, *m*	*Peekskill, N. Y.*	118 West 101st st.
Cooper, Lane, *m*	*New Brunswick, N. J.*	(108 George st.)
Corbin, Irving, *s*	*Brooklyn, N. Y.*	(296 McDonough st.)
Corbin, John, *l*	*Plattsburgh, N. Y.*	
Corning, William Butler, *c*	*New York City*	27 Morningside Pk. E.
Cornish, Harry Seymour, *m*	*New York City*	349 Madison ave.
Cory, Horace Cortelyou, *m*	*Newark, N. J.*	(735 Highland ave.)
Costello, Daniel Ferry, *m*	*Jersey City, N. J.*	(Hopkins & Summit aves.)
Costello, Richard Raymond, *l*	*New York City*	129 East 71st st.
Cotter, John James, *m*	*New Bedford, Mass.*	129 West 64th st.
Cottier, Joseph Germains Charles, *p*	*Jersey City, N. J.*	(12 Congress st.)
Coudert, Charles du Pont, *l*	*New York City*	53 West 48th st.
Cowperthwait, Frederic Nichols, *s*	*New York City*	5 Mt. Morris Pk.
Cox, Rowland, Jr., *m*	*New York City*	348 West 58th st.
Cox, William Townsend, *s*	*Morristown, N. J.*	
Coykendall, Frederick, *s*	*Rondout, N. Y.*	Hotel Marie Antoinette
Crampton, Charles Ward, *m*	*New York City*	133 West 123d st.
Crampton, Henry Edward, Jr., *p*	*New York City*	155 West 119th st.
Crampton, Stewart Hooker, *s*	*Brooklyn, N. Y.*	(95 Gates ave.)
Crane, Alexander Mitchell, *l*	*Scarsdale, N. Y.*	
Crane, Claude Granville, *m*	*Middletown, N. Y.*	25 West 23d st.
Crane, Clinton Hoadley, *s*	*New York City*	500 Madison ave.
Crawford, Henry Erastus, *s*	*New York City*	220 West 28th st.
Crawford, William Barron, *m*	*Savannah, Ga.*	28 West 61st st.
Creeden, Edward Lawrence, *m*	*New York City*	232 East 18th st.
Cronin, William, *m*	*New London, Conn.*	
Crosby, Arthur Alexander, *l*	*New York City*	Broadway Central Hotel
Cross, Frank Bethel, *m*	*New York City*	6 West 66th st.

NAME	RESIDENCE	CITY ADDRESS
Culbertson, Henry Coe, *l*	*Cincinnati, O.*	76 West 48th st.
Cummings, Constantine Stanislaus, *l*	*St. Louis, Mo.*	
Cummings, John Joseph, *m*	*Worcester, Mass.*	127 West 63d st.
Cunningham, Joseph Atwood, *m*	*Long Island City, N. Y.*	(129 6th st.)
Curran, Ross Ambler, *c*	*New York City*	107 East 57th st.
Curry, Frank Holmes, *c*	*New Brighton, N. Y.*	417 Madison ave.
Curry, Robert, *s*	*New Brighton, N. Y.*	
Curtiss, Alfred Loomis, *l*	*New York City*	9 West 56th st.
Curtiss, Charles Romaine, *m*	*Newark, N. J.*	(Riverside ave.)
Cutler, Frederick Morse, *pl*	*New York City*	41 East 69th st.
Daley, Dennis Webster, *s*	*Charleston, W. Va.*	148 East 49th st.
Daly, Edward Hamilton, *l*	*New York City*	19 East 62d st.
Daly, Edwin Howell, *s*	*New York City*	1064 Madison ave.
Darling, Everett Field, *m*	*Mendon, Mass.*	21 West 60th st.
Darrach, Bradford, Jr., *s*	*Elizabeth, N. J.*	(567 N. Broad st.)
Darrach, James Wilmarth, *m*	*Newark, N. J.*	(395 Sussex ave.)
Davidson, John McBain, *m*	*New York City*	251 West 92d st.
Davidson, William Stewart, *s*	*Sherbrooke, Quebec*	
Davis, David Theodor, *l*	*New York City*	15 East 62d st.
Davis, Fellowes, Jr., *m*	*New York City*	57 West 48th st.
Davis, Lynley Seymour, *s*	*New York City*	16 East 45th st.
Dawson, Ray, *pl*	*Boonton, N. J.*	
Day, Schuyler Emerson, *l*	*New York City*	3 West 63d st.
Dayton, Hughes, *m*	*New York City*	25 East 46th st.
Deal, Frank Henry, *l*	*Troy, N. Y.*	152 East 56th st.
Deane, Sumner, *c*	*New York City*	40 West 59th st.
de Coppet, Theakston, *s*	*New York City*	22 West 17th st.
Deely, George Edward, *m*	*Lee, Mass.*	129 West 61st st.
de Forest, Johnston, *l*	*New York City*	7 Washington sq.
Deignan, James Herbert, *l*	*New York City*	854 East 134 st.
de la Fuente, Jesús, *s*	*Nadadores, Mex.*	44 East 51st st.
Delano, William Adams, *s*	*New York City*	42 Fifth ave.
Delson, Isadore, *s*	*New York City*	203 East 69th st.
Demarest, John Woodbridge, *c*	*Queens, N. Y.*	
De Mille, William Churchill, *s*	*Pompton, N. J.*	219 West 44th st.
Deming, Sylvester Chittenden, *l*	*Arlington, Vt.*	Madison Ave. Hotel
Dempewolff, August Fred, *m*	*New York City*	11 Manhattan st.
Dempsey, William Theobald, *c*	*Lansing, Ia.*	136 West 52d st.
Dennis, Alfred Lewis Pinneo, *pl*	*New York City*	301 Lexington ave.
Denny, Robert Campbell, *s*	*Newark, N. J.*	36 Park pl.
Denton, Eugene Willis, *l*	*New Hyde Park, N. Y.*	
Depew, Frank, *c*	*New York City*	150 West 121st st.
de Peyster, Frederick Ashton, *c*	*New York City*	7 East 42d st.
Deputy, Ewing Leo, *l*	*Portsmouth, O.*	106 East 55th st.
Deremer, Joseph Bell, *s*	*Washington, N. J.*	

NAME	RESIDENCE	CITY ADDRESS
de Rose, Edward Livingston, *c*	*East Hampton, N. Y.*	117 Madison ave.
De Witt, William Archelaus, *c*	*New York City*	133 West 78th st.
Dexter, Nathaniel Wheaton, *s*	*Pawtucket, R. I.*	106 West 64th st.
de Young, Arthur Brill, *c*	*New York City*	125 West 77th st.
Dickerson, Frank Secor, *s*	*New York City*	22 East 73d st.
Dickinson, Harold Thomas, *s*	*New York City*	212 West 80th st.
Dietrich, Alfred Elliot, *s*	*New York City*	142 West 82d st.
Dike, Francis Harold, *c*	*New York City*	159 West 129th st.
Dillenberg, Joseph Solomon, *m*	*New York City*	325 East 62d st.
Ditman, Norman Edward, *m*	*Englewood, N. J.*	106 West 64th st.
Dixon, Sidney Harry, *c*	*Westchester, N. Y. C.*	(Railroad ave., Unionport.)
Dixon, William Henry, *c*	*New York City*	29 West 49th st.
Dobkin, Nicholas, *m*	*New York City*	34 St. Mark's pl.
Dodd, Edward Lewis, *m*	*East Orange, N. J.*	
Dodge, Guy Phelps, *l*	*New York City*	225 Madison ave.
Donahoe, Silas Howard, *m*	*Narragansett Pier, R. I.*	830 Amsterdam ave.
Donnelly, Charles, Jr., *m*	*Pittsburg, Pa.*	39 West 27th st.
Donohue, Francis Bernard, *m*	*Paterson, N. J.*	(253 Main st.)
Donovan, Patrick George, *m*	*Townsend, N. Y.*	507 West 59th st.
Doran, Michael, Jr., *l*	*St. Paul, Minn.*	44 West 46th st.
Dorfman, Walter, *s*	*New York City*	124 Rivington st.
Dorman, Franklin Abbott, *m*	*Upper Montclair, N. J.*	318 West 57th st.
Dorman, Harry Gaylord, *m*	*Upper Montclair, N. J.*	318 West 57th st.
Doughty, Isaac Linton, Jr., *m*	*Brooklyn, N. Y.*	(643a Greene ave.)
Douglas, John, *m*	*New York City*	145 West 81st st.
Douglass, Robert Francis, *m*	*Plainfield, N. J.*	(80 Mercer ave.)
Downer, Charles Alfred, *ph*	*Brooklyn, N. Y.*	17 Lexington ave.
Downs, Augustus Sherman, *m*	*Saratoga, N. Y.*	28 West 61st st.
Drake, William Wilson, *m*	*New York City*	137 West 80th st.
Dresser, Frank Griggs, *c*	*Southbridge, Mass.*	144 Lexington ave.
Dreyfus, Frederick Jonas, *p*	*New York City*	45 East 92d st.
Driscoll, Daniel Michael, *m*	*Norwich, Conn.*	(94 Bedford ave., B'klyn)
Dryfoos, Arthur David, *m*	*New York City*	22 West 69th st.
Duden, William, *c*	*Bronxville, N. Y.*	(P. O. Box 589)
Duffield, Francis, *m*	*Detroit, Mich.*	36 East 21st st.
Duffield, Roy Farrell, *c*	*Quincy, Mass.*	(Hollis, L. I.)
Duggan, Stephen Pierce, *pl*	*New York City*	533 Lexington ave.
Dunn, Arthur Diamond, *s*	*New York City*	164 East 111th st.
Durham, Leicester, *s*	*Brooklyn, N. Y.*	160 West 27th st.
Durham, Roger, *c*	*Brooklyn, N. Y.*	
Durning, Charles Francis, *m*	*Worcester, Mass.*	127 West 63d st.
Duryea, Chester Burnell, *p*	*New York City*	80 Madison ave.
Dusenbury, Arthur Newcomb, *s*	*Lake Mahopac, N. Y.*	71 West 95th st.
Du Vivier, Joseph Augustus, *l*	*New York City*	441 West 21st st.

NAME	RESIDENCE	CITY ADDRESS
Dwight, Frederick, *l*	*Brooklyn, N. Y.*	(51 Remsen st.)
Dwyer, Joseph William, *m*	*Passaic, N. J.*	(138 Madison st.)
Dyer, Joseph Osterman, *m*	*New York City*	113 East 28th st.
Dynes, John Howard, *pl*	*Cleveland, O.*	142 West 49th st.
Eakins, Olin Martin, *m*	*Paterson, N. J.*	(141 Water st.)
Earl, William Petry, *m*	*Herkimer, N. Y.*	
Eaton, Alvin Richard, Jr., *m*	*Elizabeth, N. J.*	(1141 E. Jersey st.)
Eberle, Charles Fred, *l*	*Chatham, N. Y.*	144 West 36th st.
Eccles, David Charles, *s*	*Brooklyn, N. Y.*	(191 Dean st.)
Eckerson, Charles Hammond, *s*	*Closter, N. J.*	
Edgerton, Francis Cruger, *m*	*Middletown, Conn.*	125 West 64th st.
Edson, Herman Aldrich, *s*	*Shelter Island Heights, N. Y.*	313 West 74th st.
Edwards, Charles Hebard, *c*	*Greenwich, Conn.*	
Edwards, James Alexander, *c*	*New York City*	144 West 58th st.
Edwards, Walter Strong, *c*	*Greenwich, Conn.*	
Egner, Henry William, Jr., *l*	*Newark, N. J.*	(1015 Broad st.)
Ehlers, Edward Cargill, *m*	*New York City*	315 Fourth ave.
Ehrenreich, James Jacob, *s*	*New York City*	48 East 74th st.
Ehret, George, Jr., *c*	*New York City*	1197 Park ave.
Ehrhorn, Oscar Weeks, *l*	*New York City*	215 Ninth ave.
Ehrich, Jesse William, *l*	*New York City*	54 West 75th st.
Einbigler, Benjamin Franklin, *l*	*New York City*	316 West 113th st.
Einstein, Lewis, *c*	*New York City*	44 West 53d st.
Einstein, Lewis David, *c*	*New York City*	39 West 57th st.
Eising, Eugene Harold, *m*	*New York City*	6 East 66th st.
Eisner, Jerome, *l*	*New York City*	158 East 72d st.
Eldert, Henry Cameron, *c*	*Brooklyn, N. Y.*	(296½ Lafayette ave.)
Eldridge, George Dyre, Jr., *l*	*Westfield, Mass.*	143 West 72d st.
Elgas, Francis Bertram, *c*	*New York City*	121 West 87th st.
Eliah, Shimmon Mar, *ph*	*Oroomiah, Persia*	175 Ninth ave.
Elias, Herman Ralph, *l*	*New York City*	95 East 7th st.
Ellard, Charles Henry, *c*	*Great Neck, N. Y.*	
Elliott, Richard Aston, *l*	*New York City*	244 West 72d st.
Elliott, Robert Huger, *s*	*New Orleans, La.*	102 West 84th st.
Elliott, Robert Woodward Barnwell, *l*	*New York City*	104 West 48th st.
Ellis, Herbert Henry, *m*	*Ithaca, N. Y.*	Hotel Empire.
Ellison, Mark Hugo, *l*	*New York City*	1893 Madison ave.
Ellison, Millard Henry, *l*	*New York City*	48 East 87th st.
Elmer, Charles Howard, *c*	*New York City*	189 Lenox ave.
Elmore, Franklin, *l*	*Troy, N. Y.*	61 West 51st st.
Ely, Addison, Jr., *c*	*Rutherford, N. J.*	
Emerick, Charles Franklin, *pl*	*New York City*	507 West 51st st.
Emerson, Haven, *m*	*New York City*	81 Madison ave.
Emerson, William, *s*	*New York City*	81 Madison ave.

NAME	RESIDENCE	CITY ADDRESS
Emhoff, Elmer Ellsworth, *ph*	*Wilcox, Pa.*	41 East 69th st.
Eno, Henry Lane, *l*	*Saugatuck, Conn.*	
Enteen, Joel, *c*	*New York City*	218 Broome st.
Entz, George Gilbert, *s*	*New York City*	24 East 83d st.
Erdal, Oscar Wilson, *s*	*Johannesburg, South African Rep.*	150 East 60th st.
Erskine, John, *c.*	*Weehawken, N. J.*	
Espenshade, Abraham Howry, *ph*	*Lancaster, Pa.*	115 West 49th st.
Estabrook, Harold Kelsey, *pl*	*Cambridge, Mass.*	26 Delancey st.
Evans, William Sanford, *pl*	*New York City*	669 Madison ave.
Everitt, Chauncey Valentine, *m*	*Jersey City, N. J.*	(209 Bergen ave.)
Ewen, John, *l*	*Spuyten Duyvil, N. Y.*	
Fackenthal, Joseph Diahl, *c*	*Brooklyn, N. Y.*	(93 Rodney st.)
Fahnestock, Clarence, *m*	*New York City*	457 Madison ave.
Fahnestock, Ernest, *m*	*New York City*	457 Madison ave.
Falck, Albert, *l*	*New York City*	29 East 132d st.
Falk, Harry Louis, *l*	*Decatur, Ala.*	117 East 60th st.
Falk, Myron Samuel, *s*	*New York City*	Hotel Netherland
Farish, George Edwin, *c*	*Denver, Col.*	
Farley, Edward James, *l*	*New York City*	10 West 84th st.
Farmer, Alexander Simpson, *s*	*Brooklyn, N. Y.*	(147 South 5th st.)
Farnsworth, Philo Taylor, Jr., *l*	*Salt Lake City, Utah*	123 East 57th st.
Fay, Charles Jarvis, *l*	*Hartford, Conn.*	542 Madison ave.
Fearing, Joseph Lea, *l*	*New York City*	7 East 43d st.
Fearing, William Henry, Jr., *s*	*New York City*	7 East 43d st.
Fechheimer, Abraham Lincoln, *s*	*Cincinnati, O.*	57 West 56th st.
Feeter, Silas Stewart, *m*	*Little Falls, N. Y.*	335 West 58th st.
Feldman, Max, *s*	*New York City*	138th st. and Amsterdam ave.
Feltenstein, Moses, *l*	*New York City*	232 Madison st.
Fendrich, Adam Edward, *m*	*New York City*	428 West 41st st.
Ferguson, Garwood, *s*	*Paterson, N. J.*	
Ferguson, Samuel, *s*	*Hartford, Conn.*	10 East 47th st.
Ferris, Floyd, *p*	*New York City*	128 West 59th st.
Finch, Edward Ridley, *l*	*Plainfield, N. J.*	60 East 49th st.
Fine, Harry Nelaton, *l*	*Verdersburg, Ind.*	(33 Ely ave., Long Island City)
Finney, Adelbert Howard, *l*	*Cleveland, O.*	
Finnigan, James Joseph, *c*	*New York City*	108 Amsterdam ave.
Fish, Azel Hull, *pl*	*New York City*	123 East 74th st.
Fishel, Leo, *c*	*Babylon, N. Y.*	
Fisher, Henry, *s*	*New York City*	108 East 70th st.
Fisher, Robert Mulford, *s*	*Mt. Vernon, N. Y.*	
Fisher, William King, *c*	*New York City*	524 West 142d st.
Fiske, William Mead Lindsley, Jr., *c*	*Brooklyn, N. Y.*	(484 Bedford ave.)

NAME	RESIDENCE	CITY ADDRESS
Fitch, Charles Wilmer, *m*	*Moores, N. Y.*	129 West 61st st.
Fitch, Wells Hubert, *ph*	*Brooklyn, N. Y.*	50 East 70th st.
Fitzgerald, Charles Francis, *m*	*New York City*	129 West 64th st.
Flagler, Harry Harkness, *c*	*New York City*	51 Park ave.
Flanagan, Edward James, *l*	*Brooklyn, N. Y.*	(388 Sackett st.)
Fleischmann, Charles Russell, *l*	*New York City*	10 East 73d st.
Fleischmann, Ernest Henry, *l*	*New York City*	1523 Madison ave.
Fleming, Charles Edward, *c*	*Rye, N. Y.*	
Fleming, Charles Lewis, Jr., *l*	*New York City*	845 St. Nicholas ave.
Fliess, Robert Anton, *s*	*New York City*	201 West 55th st.
Floyd, Rolfe, *m*	*Mastic, N. Y.*	50 West 68th st.
Fogarty, Joseph Norman, *m*	*Key West, Fla.*	104 West 64th st.
Foote, Emerson, Jr., *s*	*New York City*	30 West 11th st.
Foote, Sherman Knevals, *m*	*New York City*	53 West 82d st.
Force, Dexter Newell, Jr., *s*	*Montclair, N. J.*	
Ford, Harry Clifford, *s*	*New York City*	310 West 18th st.
Forman, Edward Rodney, *s*	*Brooklyn, N. Y.*	(188 Penn st.)
Forsythe, Frederic Wellington, *l*	*Lincoln, Ill.*	
Fort, George Phelps, *c*	*Brooklyn, N. Y.*	(111 Decatur st.)
Foster, George Henry Dunton, *l*	*Portland, Me.*	145 East 49th st.
Foster, Hugh Molleson, *c*	*New York City*	16 East 31st st.
Foster, Jay Stanley, *l*	*New York City*	54 Irving pl.
Foster, Oscar Riker, *s*	*Brooklyn, N. Y.*	(377 Quincy st.)
Fowler, Arthur Alexander, *c*	*New York City*	60 East 68th st.
Fowler, Carl Hitchcock, *l*	*Buffalo, N. Y.*	(80 Munn ave., East Orange, N. J.)
Fowler, Clarence Vernon, *m*	*Newburgh, N. Y.*	244 West 42d st.
Fowler, Edmund Prince, *m*	*New York City*	18 East 58th st.
Fox, David Joseph, *l*	*New York City*	127 East 79th st.
Fox, George Howard, *m*	*New York City*	18 East 31st st.
Fox, John Crary, *m*	*Rutland, Vt.*	(328 Putnam ave., Bklyn.)
Franc, James Joseph, *l*	*Toledo, O.*	651 Madison ave.
France, Melville Jefferson, *c*	*Brooklyn, N. Y.*	(933 Kent ave.)
Frank, Augustus Alphonsus, *s*	*New York City*	71 Seventh ave.
Frank, Robert Tilden, *m*	*New York City*	17 East 61st st.
Frankle, Benjamin Butler, *m*	*Denver, Col.*	11 West 89th st.
Franklin, Charles Moore, *m*	*Union Spring, Ala.*	
Franz, Shepherd Ivory, *ph*	*Jersey City, N. J.*	(62 Cottage st.)
Frazer, Harvey Thompson, *m*	*New York City*	41 West 45th st.
Freeman, Clarence Randolph, *l*	*New York City*	75 West 85th st.
Frentzel, Louis Herman Walter, *m*	*Passaic, N. J.*	
Frenzen, Wilhelm, *ph*	*New York City*	700 Park ave.
Friedmann, Jacob Lawrence, *l*	*New York City*	109 East 78th st.
Frierson, James Nelson, *l*	*Statesburg, S. C.*	Care Mrs. D. A. Kellogg, Spuyten Duyvil, N. Y.
Frissell, Lewis Fox, *m*	*New York City*	125 West 47th st.

NAME	RESIDENCE	CITY ADDRESS
Fritts, Andrew Suydam, *m*	*Plainfield, N. J.*	129 West 61st st.
Frost, Francis Le Jan, *ph*	*Charleston, S. C.*	175 Ninth ave.
Frost, Frederic Worthen, *l*	*Potsdam, N. Y.*	
Frost, Harry Raymond, *l*	*Poughkeepsie, N. Y.*	133 West 103d st.
Fry, Howard James, *m*	*New York City*	154 West 98th st.
Fry, John Ellis, *ph*	*Crawfordsville, Ind.*	41 West 69th st.
Fry, William Henry, *c*	*Brooklyn, N. Y.*	(319 9th st.)
Fuller, Seymour Keyes, *c*	*Brooklyn, N. Y.*	(77 Hanson pl.)
Fullerton, Albert, *l*	*Atchison, Kan.*	244 West 52d st.
Fulton, Charles Herman, *s*	*Brooklyn, N. Y.*	229 Fifth ave.
Funk, John Arthur, *m*	*West New Brighton, N. Y.*	
Furman, Reginald, *m*	*New York City*	47 West 19th st.
Furman, Stuart Sydney, *l*	*New York City*	47 West 19th st.
Gallatin, Albert Rolaz, *s*	*New York City*	58 West 55th st.
Gallatin, Goelet, *c*	*New York City*	670 Fifth ave.
Gallatin, James Nicholson, *p*	*New York City*	58 West 55th st.
Gardiner, Philip Parkhurst, *c*	*Garden City, N. Y.*	
Gardner, Arthur Henry, *m*	*Springfield, Mass.*	
Gennert, Henry, *l*	*Greenville, N. J.*	24 East 13th st.
Gennert, William Oscar, *l*	*Greenville, N. J.*	24 East 13th st.
Gentzlinger, Charles Frederick, *l*	*New York City*	316 Second ave.
George, Frederick Siebert, *m*	*Seneca Falls, N. Y.*	125 West 64th st.
Geppert, Richard, *s*	*Newark, N. J.*	(20 Mercer st.)
Gerrodette, Frank Honoré, *ph*	*New York City*	9 West 31st st.
Gershel, Milton, *m*	*New York City*	69 East 121st st.
Getman, John Edgar, *m*	*Gloversville, N. Y.*	418 West 58th st.
Geyer, Harold Carl, *m*	*New York City*	78 Second st.
Gibson, Seth Ashley, *l*	*Providence, R. I.*	150 East 53d st.
Giddings, Henry Starr, *c*	*New York City*	150 West 79th st.
Gieschen, Albert Henry, *m*	*New York City*	46 East 124th st.
Giffin, Irving, *c*	*Orange, N. J.*	(311 Lincoln ave.)
Gilbert, Benjamin Thorn, *c*	*Clayville, N. Y.*	5 East 41st st.
Gilbert, Clinton Wallace, *c*	*Brooklyn, N. Y.*	(428 Carlton ave.)
Gilbert, Frederic Nye, *l*	*Brooklyn, N. Y.*	(168 State st.)
Gill, Abner Winthrop, *s*	*Leonia, N. J.*	
Gilmour, Andrew James, *m*	*Fulton, N. Y.*	139 West 61st st.
Gilpin, Charles Monteith, *l*	*Elkton, Md.*	53 West 53d st.
Godwin, Philander Hanford, *s*	*New York City*	125 West 122d st.
Goldberg, Bernard, *l*	*New York City*	157 East 72d st.
Goldberg, Lawrence, *l*	*New York City*	316 East 116th st.
Goldmark, Herbert, *l*	*Brooklyn, N. Y.*	(626 Greene ave.)
Goldstein, Edwin Sydney, *s*	*Cincinnati, O.*	(20 Sutton pl.)
Goodelman, Simon, *l*	*New York City*	1558 Avenue A
Goodenough, Robert Judson, *s*	*Brooklyn, N. Y.*	(18 Seventh ave.)
Goodfriend, Henry, *m*	*New York City*	338 East 78th st.

NAME	RESIDENCE	CITY ADDRESS
Goodman, Joseph, *s*	*New York City*	611 East 6th st.
Goodman, Marcus, *m*	*New York City*	354 East 4th st.
Goodridge, John Wesley, *s*	*Brooklyn, N. Y.*	
Goodridge, Malcolm, *m*	*Flushing, N. Y.*	127 West 64th st.
Goodwillie, Robert Hogue, *s*	*New York City*	154 West 34th st.
Goodwin, Willard Hubbard, *l*	*Genesee, N. Y.*	(25 Howe ave., Passaic, N. J.)
Gordon, William S., *l*	*Lancaster, Pa.*	221 East 50th st.
Gotthelf, August Henry, *s*	*Hastings, N. Y.*	
Gould, Edward Ludlow, *s*	*Yonkers, N. Y.*	(59 Hawthorne ave.)
Gould, Everett Willoughby, *m*	*Watertown, N. Y.*	539 West 144th st.
Gould, John Wesley, *c*	*Brooklyn, N. Y.*	(246 14th st.)
Grace, William Russell, Jr., *s*	*New York City*	31 East 79th st.
Graeser, Herman Rudolph Alexander, *m*	*New York City*	89 East 4th st.
Graham, James Frank, Jr., *m*	*Memphis, Tenn.*	207 East 34th st.
Graham, Sharon, *l*	*Sparkill, N. Y.*	
Gramm, Frederick Emil, *s*	*New York City*	137 East 52d st.
Grannis, Pierre Edwards, *c*	*East Orange, N. J.*	264 Fifth ave.
Grant, Arthur Rogers, *m*	*Utica, N. Y.*	143 Lexington ave.
Grant, James Edward, *m*	*Hamilton, N. Y.*	947 Amsterdam ave.
Grausman, Philip Michael, *m*	*Raleigh, N. C.*	320 West 58th st.
Graves, Horace Cutler, *c*	*Brooklyn, N. Y.*	(272 McDonough st.)
Gray, Alfred William, *m*	*Milwaukee, Wis.*	346 West 58th st.
Gray, Arthur Romain, *c*	*New York City*	47 West 48th st.
Green, Nathan Williams, *m*	*New York City*	91 Park ave.
Green, Robert Corbould, *s*	*Newtown, N. Y.*	
Green, Stith Gordon, *m*	*Jackson, Miss.*	306 West 114th st.
Greene, Myron Evans, *s*	*New York City*	417 West 23d st.
Greene, Ralph Campbell, *l*	*Sayville, N. Y.*	28 West 61st st.
Greene, Simon, Jr., *m*	*New York City*	406 West 58th st.
Gregg, Harry Westervelt, *s*	*New York City*	162 West 73d st.
Gregory, William King, *c*	*New York City*	179 West 10th st.
Griffin, Arthur Benedict, *c*	*New York City*	882 St. Nicholas ave.
Griffin, Bradney Beverly, *p*	*New York City*	2058 Vanderbilt ave.
Griffiths, William James, Jr., *s*	*Mt. Vernon, N. Y.*	(317 S. 8th ave.)
Gros, Frederic, *l*	*Delphi, Ind.*	
Gros, Harry Eugene, *l*	*Delphi, Ind.*	
Grosner, Benjamin Alexander, *l*	*New York City*	1041 Lexington ave.
Gross, John Conrad, *m*	*New York City*	1205 Park ave.)
Gross, Moritz, *m*	*Worcester, Mass.*	416 West 57th st.
Grout, Abel Joel, *p*	*Brooklyn, N. Y.*	(920 Bedford ave.)
Gumaer, Alfred Hermann, *s*	*Jersey City, N. J.*	(292 Pavonia ave.)
Gunn, George Bain, *s*	*East Orange, N. J.*	(139 Munn ave.)
Gunton, William Boone, *c*	*New York City*	64 West 77th st.
Haar, Henry Philip, *s*	*New York City*	450 West 152d st.
Haas, Harry Louis, *c*	*New York City*	383 West End ave.

NAME	RESIDENCE	CITY ADDRESS
Haas, Leopold Frederick William, *m*	*New York City*	105 East 75th st.
Haberstroh, Arthur, *m*	*New York City*	103 East 53d st.
Hackett, Frank Sutliff, *c*	*New York City*	164 West 83d st.
Haden, John Brannum, *m*	*New York City*	25 West 36th st.
Haight, Charles Sidney, *s*	*New York City*	150 West 86th st.
Hailey, Walter Penrhyn, *m*	*Savanna, I. T.*	(462 Greene ave., Bklyn.)
Haldy, Frederick George, *s*	*Cleveland, O.*	
Hale, Frederick, *l*	*Ellsworth, Me.*	
Hall, Charles Henry, *m*	*Brooklyn, N. Y.*	(427 Waverley ave.)
Hall, Frederick Smith, *pl*	*Montclair, N. J.*	318 West 57th st.
Hall, Harry Stewart, *s*	*New York City*	202 West 103d st.
Hall, Harold Newman, *s*	*Brooklyn, N. Y.*	204 Hancock st.
Hall, Myron Foster, *m*	*Elmira, N. Y.*	
Halsey, Robert Hurtin, *m*	*Astoria, N. Y.*	
Hamlin, Christopher Robert, *ph*	*New York City*	41 East 69th st.
Hammond, George Tillinghast, Jr., *m*	*Brooklyn, N. Y.*	(94 St. Mark's ave.)
Hanan, James Taylor, *m*	*Brooklyn, N. Y.*	(342 First st.)
Hanauer, Sumner, *l*	*New York City*	12 East 47th st.
Hanscom, Howard Chapin, *m*	*Auburn, Me.*	224 West 121st st.
Harden, Alfred Dearing, *l*	*Savannah, Ga.*	44 West 46th st.
Hare, Meredith, *l*	*New York City*	28 West 11th st.
Hare, Montgomery, *l*	*New York City*	28 West 11th st.
Hargrave, George Edwin, *l*	*New York City*	281 West 118th st.
Harrington, Daniel, W., *p*	*Oshkosh, Wis.*	143 West 61st st.
Harris, Myron, *l*	*Orange, N. J.*	(39 Cleveland st.)
Harrison, Henry Sydnor, *c*	*Brooklyn, N. Y.*	(12 Garden pl.)
Harrison, John Smith, *c*	*Orange, N. J.*	(72 William st.)
Hart, Augustin Snow, *l*	*Brooklyn, N. Y,*	(196 Hancock st.)
Hart, George Washington, *m*	*Brooklyn, N. Y.*	(89 Ross st.)
Hartranft, Frederick Berg, *pl*	*Hartford, Conn.*	8 West 66th st.
Haskell, Gouverneur Morris, *s*	*Bloomfield, N. J.*	290 Washington st.
Hastings, Charles Fanning, *s*	*New York City*	15 West 50th st.
Hatton, Henry Clinton, *m*	*Brooklyn, N. Y.*	(251 McDonough st.)
Haven, Samuel Carruth, *m*	*Morristown, N. J.*	147 West 61st st.
Haviland, Reed Ferris, *m*	*Pawling, N. Y.*	323 West 59th st.)
Hawkins, Stephen Olney, *s*	*Brooklyn, N. Y.*	(61 Lefferts pl.)
Hawks, Everett Murl, *c*	*Tarrytown, N. Y.*	40 West 55th st.
Hayes, Alfred, Jr., *l*	*Lewisburg, Pa.*	10 East 43d st.
Hayes, Charles Harris, *ph*	*Madison, N. J.*	175 Ninth ave.
Hayman, Jacob, *ph*	*New York City*	129 East 105th st.
Hays, William Henry, *p*	*New York City*	13 East 54th st.
Hayt, Ralph Agustus, *m*	*Fishkill, N. Y.*	
Hayt, Robert Olcott, *s*	*Corning, N. Y.*	(12 Monroe pl., Brooklyn)
Hearne, Jack Leonard, *c*	*Austin, Tex.*	153 Madison ave.
Heidelberg, Max Gustave, *s*	*New York City*	9 West 90th st.
Heike, Rudolph Ernest, *s*	*Jersey City, N. J.*	(256 Montgomery st.)

NAME	RESIDENCE	CITY ADDRESS
Heindel, Norman Swope, *l*	*Gettysburg, Pa.*	60 West 124th st.
Heineken, William Price, *s*	*New Brighton, N. Y.*	
Held, Ruben Johnson, *m*	*New York City*	6 East 74th st.
Hellman, Edgar Arnold, *c*	*New York City*	200 West 44th st.
Hellman, George Sidney, *c*	*New York City*	200 West 44th st.
Henderson, Henry Howison, *s*	*New York City*	54 West 87th st.
Hennesey, James Francis, Jr., *m*	*New York City*	West Chester
Henriquez, Charles Louis, *m*	*New York City*	17 West 87th st.
Hensel, Otto, *m*	*New York City*	197 Second ave.
Herman, Otto Charles, *l*	*Boone, Ia.*	141 East 53d st.
Hermann, Bernhard Frederic, *s*	*New York City*	78 East 79th st.
Herrick, Charles Judson, *p*	*Granville, O.*	67 West 100th st.
Herrick, William Post, *m*	*New York City*	39 West 54th st.
Hershfield, Henry Grah, *l*	*Helena, Mont.*	41 East 67th st.
Herz, Henry, *s*	*Jersey City, N. J.*	(176 Newark ave.)
Hess, Walter Léon, *c*	*New York City*	307 West 86th st.
Heumann, George Michael, *l*	*New York City*	145 East 58th st.
Hewitt, Edward Shepard, *c*	*Brooklyn, N. Y.*	(182 Congress st.)
Hewlett, Harold Edmonds, *m*	*Babylon, N. Y.*	127 West 64th st.
Hiester, Anselm Vinet, *pl*	*Lancaster, Pa.*	153 East 51st st.
Higginson, Stephen, Jr., *c*	*New York City*	222 Fifth ave.
Hildburgh, Leo Walter, *s*	*New York City*	Park Ave. Hotel
Hildburgh, Sidney Cornelius, *s*	*New York City*	Park Ave. Hotel
Hildreth, Loring Townsend, *l*	*New York City*	31 East 63d st.
Hill, George Place, *l*	*New York City*	31 East 75th st.
Hill, Rowland Francis, Jr., *s*	*New York City*	31 East 75th st.
Hinck, Otto Helmuth, *c*	*Montclair, N. J.*	
Hinrichs, Frederic William, Jr., *c*	*Brooklyn, N. Y.*	(149 Congress st.)
Hinsdale, Roy Seymour, *m*	*Antwerp, N. Y.*	
Hirsh, William Henry, *l*	*New York City*	265 West 21st st.
Hitchcock, Charles Knap, Jr., *c*	*Bayonne, N. J.*	(49 North st.)
Hoadley, Harwood, *c*	*New York City*	347 West 58th st.
Hodges, William Van Derveer, *l*	*Denver, Col.*	1378 Lexington ave.
Hodgson, Eugene Helms, *s*	*Brooklyn, N. Y.*	(848 President st.)
Hoeninghaus, Fritz Wilhelm, *l*	*New York City*	303 West 72d st.
Hoffman, Irving Morehouse, *c*	*Mt. Vernon, N. Y.*	(30 S. 13th ave.)
Hoke, Van Wyck, *l*	*Raleigh, N. C.*	38 East 49th st.
Holbrook, Frederick Montgomery, *s*	*New York City*	645 Prospect ave.
Holbrook, John Swift, *s*	*Stamford, Conn.*	128 West 73d st.
Holden, Edgar, Jr., *m*	*Newark, N. J.*	(13 Central ave.)
Holden, Louis Halsey, *ph*	*Newark, N. J.*	(624 High st.)
Holmes, George Jenkinson, *m*	*Newark, N. J.*	(58 Spruce st.)
Holt, Hamilton, *pl*	*New York City*	130 Fulton st.
Holter, Edwin Olaf, *l*	*Helena, Mont.*	32 East 45th st.
Honnet, Joseph Harry, *m*	*Wilmington, N. C.*	31 West 58th st.
Hood, Duncan Norbert, *s*	*New York City*	76 West 48th st.

NAME	RESIDENCE	CITY ADDRESS
Hooker, James Fisk, *l*	*New York City*	Fifth Ave. Hotel
Hooker, Ransom Spafford, *m*	*Cooperstown, N. Y.*	21 West 60th st.
Hoole, Lester Page, *m*	*Brooklyn, N. Y.*	(77*a* Monroe st.)
Hooper, Harris G., *s*	*Brooklyn, N. Y.*	(494 Third st.)
Hooper, Henry Northey, *s*	*Brooklyn, N. Y.*	(494 Third st.)
Hopkins, George Gallagher, Jr., *c*	*Brooklyn, N. Y.*	(350 Washington ave.)
Horowitz, Jacob, *m*	*New York City*	2154 Lexington ave.
Horsford, Frederick Charles, *m*	*New York City*	58 Bank st.
Houston, Henry Eugene, *ph*	*Paterson, N. J.*	(Vreeland and 20th aves.)
How, Richard Willis, Jr., *s*	*New York City*	207 West 84th st.
Howard, Charles James, *m*	*Dorchester, Mass.*	(Kingston Ave. Hospital, Bklyn.)
Howard, Francis William, *pl*	*Columbus, O.*	415 West 59th st.
Howarth, Edgar John, *m*	*Utica, N. Y.*	124 West 65th st.
Howe, Harry Newell, *m*	*Monson, Mass.*	327 West 55th st.
Howe, Joseph Parkhurst, *c*	*New York City*	135 East 38th st.
Howe, Marshall Avery, *p*	*Newfane, Vt.*	
Howell, Henry Budd, *ph*	*Phillipsburg, N. J.*	
Howell, James Cox, *p*	*Highland Mills, N. Y.*	
Hubbard, Ernest Valentine, *m*	*New York City*	138 West 74th st.
Hubby, Frank Winfield, Jr., *l*	*New York City*	25 East 46th st.
Hubschmitt, Adam Wendell, *m*	*New York City*	408 East 52d st.
Hudson, Darwin Shaw, *c*	*Astoria, L. I.*	(157 Franklin st.)
Hudson, Gardner Kirk, *pl*	*Fitchburg, Mass.*	317 West 56th st.
Hudson, Percy Kierstead, *s*	*New York City*	36 West 52d st.
Hughes, Frederick John, *m*	*North Plainfield, N. J.*	
Hughes, John Lawrence, *m*	*New York City*	146 West 33d st.
Hughes, Walter Lincoln, *pl*	*Brooklyn, N. Y.*	(98 Ralph ave.)
Hulbert, Charles Southard, *s*	*New York City*	320 East 57th st.
Hulick, Francis Rader, *l*	*Easton, Pa.*	
Hull, Robert Chipman, *c*	*Brooklyn, N. Y.*	(448 Ninth st.)
Humphreys, James Barnes, *s*	*New York City*	23 East 47th st.
Humphreys, May, *l*	*New York City*	23 East 47th st.
Humpstone, Oliver Paul, *m*	*Brooklyn, N. Y.*	(291 Ryerson st.)
Hunt, Charles Frederick, *m*	*Yonkers, N. Y.*	(159 Park ave.)
Hunt, Frederic Lincoln, *l*	*New York City*	318 West 121st st.
Huntoon, Oscar Clark, *c*	*Paterson, N. J.*	
Hutchins, Robert Hamilton, *l*	*New York City*	65 West 52d st.
Hutton, Edward Hyatt, *m*	*Corning, N. Y.*	
Hyams, Benno, *m*	*New York City*	1648 Madison ave.
Hyde, Henry St. John, *pl*	*New York City*	210 East 18th st.
Hyman, Maurice Samuel, *l*	*New York City*	102 West 77th st.
Hynes, Edward Gibson, *m*	*Brooklyn, N. Y.*	(132 New York ave.)
Iglehart, Edwin Taylor, *c*	*Brooklyn, N. Y.*	(211 Clermont ave.)
Imlach, William Bertram, *s*	*New York City*	62 West 56th st.

NAME	RESIDENCE	CITY ADDRESS
Immediato, Gerardo, *s*	*Montclair, N. J.*	
Ingling, Harry Warrington, *m*	*Freehold, N. J.*	263 West 54th st.
Inglis, Lester, *l*	*Paterson, N. J.*	(199 Carroll st.)
Ireland, Howard de Forest, *m*	*New York City*	487 Manhattan ave.
Irving, John Duer, *p*	*New York City*	
Irving, Pierre Frederick, *c*	*New Brighton, N. Y.*	
Iselin, Ernest, *c*	*New York City*	9 East 26th st.
Iselin, John Henry, *l*	*New York City*	32 East 22d st.
Israel, Isidore, *l*	*Allegheny, Pa.*	732 Lexington ave.
Ivie, Charles William, *m*	*Brooklyn, N. Y.*	(172 St. Nicholas ave.)
Jackson, Elias Simeon, *m*	*New York City*	47 East 105th st.
Jackson, Joe Maurice, *m*	*Pittsburg, Pa.*	19 East 61st st.
Jackson, Reginald Henry, *m*	*Madison, Wis.*	346 West 58th st.
Jackson, Robert Lyon, *ph*	*Minneapolis, Minn.*	41 East 69th st.
Jacobs, Ralph Ketchum, *l*	*Brooklyn, N. Y.*	(892 Union st.)
Jacobs, William Ketchum, *m*	*Brooklyn, N. Y.*	(892 Union st.)
Jacobus, George Richard, *c*	*Yonkers, N. Y.*	
Jacoby, Leo, *m*	*New York City*	426 East 115th st.
James, Marshall Thomas, *s*	*Jersey City, N. J.*	(32 Monticello ave.)
Janeway, Henry Harrington, *m*	*New Brunswick, N. J.*	114 West 69th st.
Jarmulowsky, Harry, *m*	*New York City*	102 East 60th st.
Jedel, Meyer, *m*	*Newark, N. J.*	(362 Warren st.)
Jelliffe, Smith Ely, *m*	*New York City*	231 West 71st st.
Jenks, Ernest Potter, *m*	*New York City*	106 West 79th st.
Jennings, John Edward, *m*	*Brooklyn, N. Y.*	(403 First st.)
Jessup, Warren Canfield, *s*	*Augusta, Ga.*	
Jetzinger, David, *l*	*Chicago, Ill.*	149 East 45th st.
Joffe, Judah, *ph*	*Woodbine, N. J.*	254 Henry st.
Johnson, Edward West, *m*	*Keene, N. H.*	74 West 69th st.
Johnson, Franklin, Jr., *l*	*Chicago, Ill.*	106 Madison ave.
Johnson, John Barent, *c*	*Middletown, Conn.*	124 East 24th st.
Johnson, Ralph Henry, *l*	*New York City*	44 East 51st st.
Johnson, William Throckmorton, *m*	*Asbury Park, N. J.*	28 West 61st st.
Johnston, Henry Selden, *l*	*New York City*	37 East 51st st.
Johnston, Samuel Carlisle, *ph*	*Hamilton, N. Y.*	56 Morningside Pk. E.
Johnstone, Herbert McLeod, *ph*	*New York City*	33 West 97th st.
Jones, Adam Leroy, *ph*	*Hoopeston, Ill.*	63 West 52d st.
Jones, Frederick Vincent, *c*	*New York City*	53 West 51st st.
Jones, John Morgan, *m*	*Jersey City Heights, N. J.*	323 West 59th st.
Jones, Lamar Quintus, *s*	*Atlanta, Ga.*	163 Madison ave.
Jones, Mortimer Dunham, *m*	*Far Rockaway, N. Y.*	
Jones, William Phelps, *s*	*New York City*	312 West 28th st.
Jordan, Daniel, *ph*	*New York City*	151 West 61st st.
Joseph, Charles, *l*	*New York City*	68 East 86th st.

NAME	RESIDENCE	CITY ADDRESS
Joseph, Theodore Harold, *s*	*New York City*	32 East 74th st.
Josephs, Charles Samuel, *m*	*New York City*	111 Lenox ave.
Josephson, Edgar, *s*	*Brooklyn, N. Y.*	
Josephthal, Sidney Louis, *c*	*New York City*	30 East 62d st.
Judkowitz, Herman, *m*	*New York City*	164 Ridge st.
Judson, Hanford Chase, *s*	*Dobbs Ferry, N. Y.*	
Jung, Andrew Norwood, *s*	*Brooklyn, N. Y.*	(15 S. Portland ave.)
Kafka, Hugh, Jr., *s*	*New York City*	194 Edgecombe ave.
Kahn, Samuel, *m*	*New York City*	406 East 50th st.
Kaler, Lewis Edward, *c*	*Brunswick, Me.*	121 East 58th st.
Kane, Charles Joseph, *m*	*Paterson, N. J.*	(349 Grand st.)
Kaplan, Bernard Michael, *c*	*New York City*	222 East 52d st.
Kaps, John Daniel, *l*	*New York City*	106 East 55th st.
Kasner, Edward, *p*	*New York City*	52 Catherine st.
Kaufmann, Arthur, *s*	*New York City*	11 East 66th st.
Kaufmann, Edwin, *s*	*New York City*	49 East 66th st.
Kebler, John Leonard, *s*	*East Orange, N. J.*	
Keith, Harry Partridge, *l*	*Hempstead, L. I.*	
Kellock, Harold Anderson, *c*	*New York City*	372 Manhattan ave.
Kellogg, Frederic Freeman, *s*	*New York City*	48 West 53d st.
Kellogg, Kenneth Everingham, *m*	*Hartford, Conn.*	180 West 75th st.
Kellogg, Walter Guest, *c*	*Ogdensburg, N. Y.*	68 West 39th st.
Kelly, Aquinas Sarsfield, *m*	*New York City*	117 East 59th st.
Kelly, George Malin Davis, *c*	*New York City*	3 East 73d st.
Kelly, Henry Thomas, *m*	*New York City*	216 East 70th st.
Kelly, James Allison, *l*	*Nashville, Tenn.*	147 West 57th st.
Kennedy, Gilbert Falconer, *l*	*Rondout, N. Y.*	39 West 49th st.
Kennedy, Thomas Joyce Lenox, *m*	*New York City*	131 West 77th st.
Kenyon, James Henry, *m*	*Waverly, N. Y.*	127 West 61st st.
Keppel, Frederick Paul, *c*	*New York City*	239 East 17th st.
Keppler, Emil Alexander Charles, *ph*	*New York City*	28 West 70th st.
Keppler, Carl Richard, *m*	*Elizabeth, N. J.*	(540 Morris ave.)
Keresey, Walter Louis, *m*	*Hoboken, N. J.*	(616 Hudson st.)
Kerr, John Campbell, *l*	*Englewood, N. J.*	
Keschner, Moses, *m*	*New York City*	260 Rivington st.
Kessler, Eugene George, *m*	*New York City*	621 Second ave.
Keyser, Cassius Jackson, *p*	*New York City*	751 Amsterdam ave.
Khazoyan, Haigag, *ph*	*Kharput, Turkey*	700 Park ave.
Kidde, Frank, *c*	*Montclair, N. J.*	
Kilbreth, James Truesdell, Jr., *l*	*New York City*	1 West 72d st.
Kilian, William George, *s*	*New York City*	352 West 33d st.
Killgore, Robert Berthoud, *l*	*New York City*	224 West 139th st.
Kimball, Maulsby, *l*	*Kenosha, Wis.*	33 West 47th st.
King, Edward, *pl*	*New York City*	146 Forsyth st.
King, William Herbert, *pl*	*Melrose, Mass.*	144 West 34th st.

NAME	RESIDENCE	CITY ADDRESS
Kingsbury, Kenneth Raleigh, *s*	*East Orange, N. J.*	152 West 46th st.
Kipp, Burdett, *s*	*New York City*	20 West 121st st.
Kiralfy, Harry Bolossy, *l*	*New York City*	38 West Washington sq.
Kirby, Gustavus Town, *l*	*New York City*	158 West 45th st.
Kirkman, Leroy Gresham, *m*	*Port Jervis, N. Y.*	317 West 56th st.
Kittle, George Edwin, *l*	*New York City*	160 West 129th st.
Kline, Walter Leo, *m*	*Dayton, O.*	34 West 61st st.
Klotz, Walter Carl, *m*	*New York City*	42 East 22d st.
Knap, Joseph Day, *s*	*New York City*	256 West 73d st.
Knapp, James Rintoul, *c*	*New York City*	62 West 51st st.
Knapp, John Covington, *c*	*East Orange, N. J.*	(125 Arlington ave.)
Knapp, Mark Israel, *m*	*New York City*	280 Broome st.
Kneeland, Frederick Revell, *s*	*New York City*	239 West 74th st.
Knight, Frank Henry, *m*	*Brooklyn, N. Y.*	(406 Vanderbilt ave.)
Knight, Harold Bartlett, *s*	*Des Moines, Iowa*	69 West 48th st.
Knopf, Siegmund Adolph, *m*	*New York City*	349 West 58th st.
Knowles, Frederick, *m*	*New York City*	5 West 125th st.
Knowles, Robert, *l*	*Portsmouth, O.*	106 East 55th st.
Knox, Herbert Allen, *l*	*New York City*	472 Mott ave.
Knox, Newton Booth, *s*	*San Francisco, Cal.*	101 West 73d st.
Knudsen, Arthur Sinclair, *m*	*Honolulu, Hawaiian Islands.*	
Koch, Richard, *s*	*New York City*	47 East 78th st.
Kopetzky, Samuel Joseph, *m*	*New York City*	318 East 67th st.
Koronefsky, Jacob, *m*	*New York City*	33 Pike st.
Koscherak, Ferdinand Eli, *s*	*New York City*	127 West 82d st.
Kosmak, George William, *m*	*New York City*	23 East 93d st.
Krafft, Herman Frederick, *l*	*New York City*	151 East 50th st.
Krans, Horatio Sheafe, *ph*	*New York City*	
Kready, Benjamin Frank, *l*	*Lancaster, Pa.*	251 East 50th st.
Krebs, Maurice Hill, *m*	*New York City*	226 Clinton st.
Kretz, Walter Coluzzi, *p*	*New York City*	149 West 12th st.
Kreuder, Henry, *m*	*New York City*	105 East 73d st.
Krickl, Maurice, *c*	*New York City*	149 West 130th st.
Kroeber, Alfred Louis, *ph*	*New York City*	316 West 89th st.
Krug, Ernst Frederick, *m*	*Cleveland, O.*	21 West 60th st.
Krumb, Henry, *s*	*Brooklyn, N. Y.*	(55 Ten Eyck st.)
Kuhn, Arthur Kline, *l*	*New York City*	64 West 77th st.
Kuntz, Charles, *ph*	*New York City*	40 Attorney st.
Kurrus, John, *m*	*Long Branch, N. J.*	
Kurtz, Edward Lawrence, *s*	*New Castle, Pa.*	45 West 39th st.
Kurzman, Julius Caesar, *m*	*New York City*	56 East 76th st.
Lacey, Richard Austen, *s*	*Brooklyn, N. Y.*	(147 Amity st.)
Lambrecht, Joseph William, *l*	*New York City*	112 East 95th st.
Lampman, LeonardBrouk, *l*	*Newark, N. J.*	(577 High st.)
Lamson, Elliott Woodbury, *pl*	*Hamilton, Mass.*	621 West 152d st.

NAME	RESIDENCE	CITY ADDRESS
Landes, Edwin Walter, *m*	*Newark, N. J.*	(794 Parker st.)
Lane, Russell, *s*	*Orange, N. J.*	(26 Clarendon pl.)
Lang, Eugene Jerome, *s*	*New York City*	38 West 71st st.
Lange, Christian Christoph Andreas, *m*	*Brooklyn, N. Y.*	(547 Henry st.)
Lange, George Edward, *p*	*New York City*	5 West 124th st.
La Roche, Edwin Marks, *c*	*Brooklyn, N. Y.*	
Lathrop, Samuel Salisbury, *m*	*Norwich, Conn.*	46 West 36th st.
Laurie, James Anderson, Jr., *ph*	*New York City*	41 East 69th st.
Law, Frederick Houk, *ph*	*Oxford, N. Y.*	41 West 49th st.
Lawrence, Amos Edward, Jr., *p*	*Boston, Mass.*	38 East 61st st.
Lawrence, William Henry, Jr., *m*	*Summit, N. J.*	316 West 70th st.
Lawshe, Jay Earl, *l*	*Tacoma, Wash.*	68 East 49th st.
Lawson, James Lee, *l*	*Wytheville, Va.*	
Lawson, Leonidas Moreau, *m*	*New York City*	15 East 67th st.
Lay, Charles Downing, *s*	*New Rochelle, N. Y.*	(71 Willow Drive.)
Lay, Wilfrid, *ph*	*New York City*	41 West 9th st.
Layman, Daniel Wunderlich, m	*Indianapolis, Ind.*	348 West 56th st.
Lazansky, Edward, *l*	*Brooklyn, N. Y.*	(224 Carlton ave.)
Leale, Loyal, *c*	*New York City*	604 Madison ave.
Lebhar, Norman Jacob, *m*	*New York City*	11 East 108th st.
Le Cléar, Thomas, *p*	*Westfield, N. J.*	262 Fifth ave.
Le Count, Llewellyn, *s*	*New Rochelle, N. Y.*	
Lederman, Emanuel David, *m*	*New York City*	128 East 60th st.
Lee, Arthur, *c*	*Brooklyn, N. Y.*	(122 Amity st.)
Lee, Burton James, *m*	*New Haven, Conn.*	127 West 64th st.
Lee, Harry Mower, *m*	*New London, Conn.*	358 West 58th st.
Lee, Henry Thomas, Jr., *m*	*St. Paul, Minn.*	
Lee, James Thomas, *l*	*New York City*	235 East 124th st.
Lefferts, Franklin Baker, *s*	*New York City*	34 East 65th st.
Lehman, Irving, *l*	*New York City*	5 East 62d st.
Leiter, Milton Myron, *l*	*Syracuse, N. Y.*	77 West 50th st.
Lemcke, Ernst Gustav, *c*	*Astoria, N. Y.*	812 Broadway.
Leonard, Charles Shaw, *l*	*Highland, Kan.*	44 East 51st st.
LePrince, Joseph Albert Augustin, *s*	*New York City*	170th st. & Amsterdam ave.
LePrince, Louis Adolphe Whitley, *s*	*New York City*	170th st. & Edgecomb rd.
Lese, Frederick, *l*	*New York City*	231 East 60th st.
Lesem, William Wolfe, *c*	*New York City*	18 East 66th st.
Leshure, John, *m*	*New York City*	346 West 58th st.
Lesinsky, Leo, *c*	*New York City*	13 East 83d st.
Leslie, Adolph Mitchell, *l*	*New York City*	419 East 51st st.
Lesser, Joseph Mapes, *l*	*New York City*	208 East 57th st.
Lesser, Mozart Monae, *m*	*New York City*	19 East 61st st.
Lessig, William Brooke, *l*	*Pottstown, Pa.*	236 West 45th st.
Lester, Maxwell, *c*	*Brooklyn, N. Y.*	(69 First pl.)
Levi, Julian Clarence, *s*	*New York City*	137 West 81st st.
Levine, David, *ph*	*New York City*	155 East 52d st.

NAME	RESIDENCE	CITY ADDRESS
Levine, Edmund Julius, *s*	*New York City*	340 West 88th st.
Levy, Edward *m*	*New York City*	109 West 78th st.
Lewine, Jacob Lester, *c*	*New York City*	813 Lexington ave.
Lewis, Clarence McKenzie, *s*	*New York City*	104 East 37th st.
Lewis, Meyer Henry, *s*	*New York City*	25 East 104th st.
Lichtenstein, Howard, *s*	*New York City*	14 West 74th st.
Lichtenstein, Oscar Richard, *c*	*Brooklyn, N. Y.*	(132 Amity st.)
Liebmann, Walter Henry, *l*	*New York City*	42 East 72d st.
Lighthipe, William Wilson, *s*	*New York City*	179 West 10th st.
Lilly, Frederic Ferdinand, *c*	*Mt. Vernon, N. Y.*	
Lindenfelser, Stephen, *c*	*New York City*	391 East 10th st.
Lindenmeyr, Ludwig, *s*	*New York City*	240 East 15th st.
Lindheim, George Washington, *m*	*New York City*	945 Railroad ave.
Lindsay, William Godson, *s*	*New York City*	200 West 88th st.
Line, Arthur Maxwell, *m*	*Marion, Ind.*	45 West 20th st.
Livengood, Horace Rutherford, *m*	*Elizabeth, N. J.*	
Livingston, Frederick Montgomery, *l*	*Brooklyn, N. Y.*	(370 Greene ave.)
Livingston, Johnston, Jr., *s*	*Islip, N. Y.*	56 East 56th st.
Lloyd, Francis Ernest, *p*	*Forest Grove, Ore.*	335 West 58th st.
Lloyd, William Henry, *m*	*New York City*	44 West 9th st.
Lobenstine, Ralph Waldo, *m*	*New York City*	5 East 43d st.
Lobo, Gustavo, *s*	*New York City*	219 West 44th st.
Lockhart, Leslie Scott, *l*	*New York City*	104 West 64th st.
Lockward, Lynn Grover, *s*	*Caldwell, N. J.*	
Lockwood, Frank Thornton, *s*	*Paterson, N. J.*	(459 15th ave.)
Lockwood, William Andrew, *l*	*Westfield, Mass.*	29 West 56th st.
Loewenthal, Max, *s*	*New York City*	248 East 78th st.
Logan, John Othello, *m*	*New York City*	61 East 122d st.
Loney, Frederick Roosevelt, *s*	*Skaneateles, N. Y.*	550 Park ave.
Long, Percy Carr, *l*	*North Plainfield, N. J.*	615 Lexington ave.
Long, Theodore, *l*	*New York City*	261 West 113th st.
Long, William Henry, Jr., *m*	*Somerville, N. J.*	
Longacre, Orleans, Jr., *s*	*Spuyten Duyvil, N. Y.*	
Longfellow, Arthur Henry, *l*	*Boston, Mass.*	145 East 49th st.
Loomis, Andrew Gregg, *l*	*Lewisburg, Pa.*	
Loudon, Howard Carlisle, *s*	*Brooklyn, N. Y.*	(161 Keap st.)
Loughran, Frederick Percival, *m*	*New York City*	Woodsburgh, L. I.
Loughran, Robert Livingston, *m*	*Kingston, N. Y.*	24 West 50th st.
Loughran, Thomas Vincent, *l*	*New York City*	445 West 47th st.
Louis, Charles Anstatt, *s*	*Brooklyn, N. Y.*	(455 First st.)
Love, Leslie Clifford, *m*	*Montclair, N. J.*	
Love, Lionel Hartsfield, *m*	*Wilmington, N. C.*	
Low, Joseph Tompkins, Jr., *m*	*New York City*	18 East 40th st.
Lowe, Gerald Arthur, *l*	*Plainfield, N. J.*	
Lowenstein, Oscar, *c*	*New York City*	42 East 74th st.
Lowenstein, Victor, *m*	*New York City*	215 East 79th st.

NAME	RESIDENCE	CITY ADDRESS
Lowther, Christopher Meyer, *s*	*Riverside, Conn.*	
Lucas, George Latimore, *s*	*Kingsbridge, N. Y.*	
Lucas, William Henry, *m*	*Marietta, O.*	886 Tenth ave.
Lum, Ralph Emerson, *c*	*Chatham, N. J.*	
Lydecker, Irving Smith, *s*	*New York City*	562 East 155th st.
Lyle, Henry Hamilton Moore, *m*	*Hamilton, Ont.*	21 West 60th st.
Lyman, Henry Stoddard, *m*	*Omaha, Neb.*	348 West 56th st.
Lynch, Thomas Lester, *m*	*New York City*	28 Vandam st.
Lynn, Charles Willard, *m*	*New York City*	162 West 99th st.
Lyon, John Henry, *c*	*Milburn, N. J.*	34 Park Row
Lyon, Palmer Heath, *m*	*New York City*	69 West 93d st.
McAlister, William Wallace, *m*	*Paterson, N. J.*	(345 Van Houten st.)
McCabe, Thomas Sheridan, *m*	*Newark, N. J.*	(400 Market st.)
McCafferty, John Aloysius, *m*	*New York City*	754 Park ave.
McCann, John Franklin, Jr., *c*	*Brooklyn, N. Y.*	(225 Gates ave.)
McCarthy, Charles Eddy, *l*	*Troy, N. Y.*	18 East 47th st.
McCarthy, Edward John, *m*	*New Haven, Conn.*	145 West 61st st.
McCarville, Frank Joseph, *m*	*New York City*	60 West 38th st.
McCastline, Robert, *m*	*New York City*	279 West 127th st.
McCastline, William Henry, *m*	*New York City*	279 West 127th st.
McClelland, James Bruce, *s*	*New York City*	2 West 47th st.
McClelland, James Farley, *s*	*Poughkeepsie, N. Y.*	244 East 50th st.
McCloughan, Harvey, *m*	*Swartswood, N. J.*	
McClung, Clarence Erwin, *p*	*Lawrence, Kan.*	223 West 69th st.
McClure, William James, *s*	*New York City*	259 West 52d st.
McConkey, Henry Alexander, *ph*	*Peach Bottom, Pa.*	50 East 70th st.
McConn, Hugh James, *l*	*Fort Madison, Ia.*	906 Sixth ave.
McConnon, Francis James, *m*	*New York City*	220 East 121st st.
McCoun, William Townsend, Jr., *l*	*Oyster Bay, N. Y.*	44 East 51st st.
McCulloch, Robert Austen, *s*	*New Brighton, N. Y.*	
McDonald, James Walton, *ph*	*New Market, Ala.*	41 East 69th st.
McDonald, William, Jr., *m*	*Albany, N. Y.*	153 West 61st st.
McFarland, William Landram, *m*	*New York City*	121 East 35th st.
McGrann, Richard Philip, *l*	*Lancaster, Pa.*	
McGregor, James Howard, *p*	*Bellaire, O.*	330 West 56th st.
McGrew, John Tarn, *m*	*Honolulu, Hawaiian Islands*	50 West 51st st.
McGuire, Milton Howard, *s*	*New York City*	810 West End ave.
McGuire, William Strong, *l*	*New York City*	315 West 75th st.
McIntyre, Henry Knox, *s*	*New York City*	303 West 74th st.
McKee, Fred Lyman, *m*	*New York City*	231 West 71st st.
McKee, Thomas Heron, *l*	*Bozeman, Mont.*	47 East 21st st.
McKenna, James John, Jr., *c*	*New York City*	104 West 116th st.
McKenzie, Edward Townsend, *m*	*Rahway, N. J.*	116 West 84th st.
McKeon, John Gerald, *m*	*Brooklyn, N. Y.*	(343 Van Brunt st.)

NAME	RESIDENCE	CITY ADDRESS
McKim, Alexander Rice, *s*	*New York City*	106 East 23d st.
McLain, Ralph Clapp, *s*	*New York City*	53 West 57th st.
McLaughlin, Andrew Joseph, Jr.,	*m Norwich, Conn.*	
McLaughlin, Leo Lawrence, *l*	*New York City*	158 Waverley pl.
McLean, Alfred Jewett, *m*	*New York City*	31 East 126th st.
McLean, John Malcolm, *s*	*New York City*	204 West 36th st.
McLellan, Hugh, *s*	*New York City*	108 East 18th st.
McLeod, Harlow Comstock, *m*	*Brooklyn, N. Y.*	(429 Clinton ave.)
McLintock, Archibald, *s*	*New York City*	149 West 79th st.
McWhood, Leonard Beecher, *ph*	*Newark, N. J.*	(136 Pennsylvania ave.)
McWhorter, John English, *m*	*New York City*	127 West 61st st.
Maben, John Campbell, Jr., *s*	*New York City*	279 Lexington ave.
Macdougall, Geoffrey Westrope,	*m Ottawa, Canada.*	331 West 57th st.
MacGruer, Henry Alexander, *m*	*Ogdensburg, N. Y.*	30 West 75th st.
Machen, Charles Hudson, *s*	*New York City*	150 West 82d st.
Machen, Henry Bennett, *s*	*New York City*	150 West 82d st.
MacKay, Joseph Wild, *c*	*Bay Ridge, N. Y.*	
Macklin, Walter Fullarton, *m*	*New York City*	145 West 76th st.
MacMullen, Charles William, *s*	*New York City*	521 West 161st st.
MacVicar, Dana Collins, *l*	*Topeka, Kan.*	115 West 49th st.
Madan, Julian Appleton, *s*	*New York City*	75 East 56th st.
Madden, John Henry, *s*	*New York City*	308 West 30th st.
Magalhæs, George Willard, *s*	*Flatbush, N. Y.*	(11 Lincoln rd.)
Magnus, Benjamin, *s*	*New York City*	22 East 111th st.
Magruder, Hugh Sisson, *s*	*Roland Park, Ind.*	139 West 45th st.
Maguire, Edward O'Reilly, *m*	*Derby, Conn.*	145 West 61st st.
Maguire, Samuel Wilkinson, *c*	*New York City*	37 East 50th st.
Maher, James Stephen, *m*	*New Haven, Conn.*	
Mainzer, Herbert Richard, *s*	*New York City*	9 East 66th st.
Maltbie, Milo Roy, *pl*	*Hinckley, Ill.*	595 Lexington ave.
Maltby, Lucius Upson, *c*	*New York City*	22 West 130th st.
Manheims, Leo Raphael, *s*	*New York City*	164 East 79th st.
Mantinband, Jacob, *m*	*New York City*	273 East 3d st.
Marble, William Edward, *c*	*New York City*	111 West 131st st.
Marcus, John, *c*	*Jersey City, N. J.*	(100 Danforth ave.)
Margulies, Irving, *m*	*New York City*	209 East 114th st.
Margulis, Jacob, *m*	*New York City*	60 Columbia st.
Marks, Louis, *m*	*New York City*	234 East 68th st.
Marsh, Elias Joseph, Jr., *m*	*Paterson, N. J.*	(600 Park ave.)
Marsh, Seymour Nathaniel, *m*	*Brooklyn, N. Y.*	2 Vesey st.
Martin, Hugh Whitefield, *ph*	*New York City*	29 East 21st st.
Martin, John Sayre, Jr., *s*	*New York City*	260 Madison ave.
Martin, Lucius Trowbridge, *s*	*New York City*	114 East 36th st.
Martin, Thomas Aloysius, *m*	*New York City*	436 Lenox ave.
Martin, Urban Francis, *m*	*West New Brighton, N. Y.*	
Marvin, Arthur Lockett, *c*	*New York City*	332 West 58th st.

NAME	RESIDENCE	CITY ADDRESS
Marvin, Burdette Kellogg, *c*	*New York City*	332 West 58th st.
Marvin, Walter Taylor, *ph*	*New York City*	6 West 130th st.
Mason, Francis, *s*	*Brooklyn, N. Y.*	(47 Remsen st.)
Mason, Frank Heath, *l*	*Greenwich, N. Y.*	(82 South 11th st.) Newark, N. J.)
Mason, Herbert Clinton, *l*	*Vernon Centre, N. Y.*	117 West 45th st.
Mason, William Thomas, *l*	*New York City*	37 West 48th st.
Mathews, Charles Thompson, *s*	*New York City*	30 West 57th st.
Matthew, George, *c*	*St. John, N. B.*	509 Amsterdam ave.
Maverick, William Chilton, *c*	*San Antonio, Tex.*	64 West 49th st.
Maxwell, William Henry, Jr., *c*	*Brooklyn, N. Y.*	(682 Greene ave.)
May, Herbert Louis, *l*	*New York City*	153 East 74th st.
Mayer, Arthur, *l*	*New York City*	415 West 145th st.
Medina, Fred Emanuel, *m*	*Lowell, Mass.*	
Meeker, Arthur Youle, *c*	*Glen Ridge, N. J.*	
Meeks, Reginald, *s*	*New York City*	Hotel Endicott
Mehler, Albert Joseph, *c*	*New York City*	519 West End ave.
Mehrbach, William, *s*	*New York City*	56 East 72d st.
Meissner, William Christen, *s*	*New York City*	48 West 25th st.
Mendel, Edwin Marcus, *m*	*New York City*	330 West 55th st.
Menk, Paul Ernest, *m*	*Newark, N. J.*	(106 Market st.)
Menline, Isaac, *s*	*New York City*	356 East 69th st.
Merrell, Howard Valentine, *m*	*South Branch, N. J.*	145 West 61st st.
Merriam, Charles Edward, *pl*	*Hopkinton, Ia.*	
Merrill, Edward Gibbs, *c*	*New York City*	147 West 12th st.
Merry, Henry Emil, *s*	*Newark, N. J.*	(85 Washington ave.)
Merriman, James David, *pl*	*Litchfield, Me.*	857 Lexington ave.
Meyer, Leo Bernard, *m*	*New York City*	2065 Madison ave.
Michaelis, Alfred, *m*	*New York City*	53 St. Mark's pl.
Michel, Louis Ewald, *s*	*Union Hill, N. J.*	(319 Blum st.)
Michel, Samuel Murray, *l*	*New York City*	246 East 51st st.
Middendorf, George Frederick, Jr., *l*	*Brooklyn, N. Y.*	(90 Schenck ave.)
Miller, Albert Hersey, *m*	*Lewiston, Me.*	143 West 63d st.
Miller, Charles Wesley, *l*	*Guthrie, O. T.*	
Miller, Edward Ira, *m*	*Newark, N. J.*	127 West 67th st.
Miller, Ethelbert Wesly, *m*	*Jersey City, N. J.*	(301 York st.)
Miller, Franklyn Henry, *m*	*Brooklyn, N. Y.*	(212 Hooper st.)
Miller, Guy Bryan, *m*	*New Rochelle, N. Y.*	138 West 65th st.
Miller, Guy Hiram, *s*	*Herkimer, N. Y.*	1 West 39th st.
Miller, Harry Augustus, *c*	*Portland, Ore.*	232 West 45th st.
Miller, James Alexander, *m*	*Roselle, N. J.*	135 West 64th st.
Miller, Richard Thomas, *m*	*New York City*	269 Pleasant ave.
Millikan, Max Frank, *p*	*Aromosa, Ia.*	155 West 66th st.
Mills, Edward Kirkpatrick, *l*	*Morristown, N. J.*	23 West 50th st.
Millspaugh, Willard Pierrepont, *m*	*Richmond, N. Y.*	
Minard, Hubert Chambers, *l*	*Buffalo, N. Y.*	152 East 56th st.

NAME	RESIDENCE	CITY ADDRESS
Miner, Elijah Daniel, *c*	*New York City*	1150 Forest ave.
Mitchel, John Purroy, *c*	*New York City*	447 West 162d st.
Mitchell, Edward Elbert, *m*	*Flushing, N. Y.*	127 West 61st st.
Mitchell, Harry Brainerd, *c*	*Brooklyn, N. Y.*	(164 Washington Pk.)
Mitchell, James, *pl*	*Breckenridge, Mich.*	144 East 55th st.
Mitchell, John Fulton Berrien, Jr., *c*	*Flushing, N. Y.*	
Mitchell, Robert Jacob, *m*	*New York City*	811 West End ave.
Mittendorf, William Elphinstone Keith, *m*	*New York City*	140 Madison ave.
Moffat, Edward Stewart, Jr., *s*	*Scranton, Pa.*	104 West 48th st.
Moffatt, Miles Rees, *c*	*Mamaroneck, N. Y.*	
Mohr, Charles Adam, *ph*	*Macungie, Pa.*	50 East 70th st.
Montgomery, Hardman Philips Alan, *s*	*New York City*	1189 Madison ave.
Montgomery, Henry Eglinton, *c*	*Flushing, N. Y.*	32 Nassau st.
Montgomery, Walter Clark, *m*	*New York City*	5 West 74th st.
Moore, Clifford Colgate, *m*	*Brooklyn, N. Y.*	(76 Third pl.)
Moore, Walter Jefferson, *l*	*Plainfield, N. J.*	60 East 49th st.
Moore, William Dunlap, *pl*	*Watertown N. Y.*	60 East 49th st.
Moore, William Underhill, *c*	*New York City*	205 Boulevard
Moran, Charles, *c*	*New York City*	44 West 39th st.
Moran, William Edgar, *s*	*New York City*	1983 Madison ave.
More, Taylor, *l*	*Deposit, N. Y.*	129 Lexington ave.
Morgan, Browne, *m*	*Glen Ridge, N. J.*	
Morgan, William Millerd, *c*	*New York City*	156 West 79th st.
Morrill, William Charles, *s*	*New York City*	24 West 83d st.
Morris, Monson, *s*	*New York City*	14 East 63d st.
Morris, Stuyvesant Fish, Jr., *c*	*New York City*	16 East 30th st.
Morrow, Albert Sydney, *c*	*New York City*	66 West 40th st.
Morrow, Dwight Whitney, *l*	*Allegheny, Pa.*	55 West 45th st.
Morse, Robert King, *c*	*Nyack, N. Y.*	
Morse, Roscius, Jr., *l*	*Elmira, N. Y.*	368 West 55th st.
Mortimer, Henry Coit, Jr., *s*	*New York City*	54 West 21st st.
Mortimer, Laurence, *c*	*New York City*	54 West 21st st.
Moschcowitz, Eli, *m*	*New York City*	364 West 55th st.
Moseley, Henry Perkins, *m*	*New York City*	
Mosenthal, Herman Otto, *c*	*New York City*	16 West 85th st.
Moss, L. Howard, *m*	*Brantford, Canada*	316 West 70th st.
Moulton, Robert Hurt, *s*	*Memphis, Tenn.*	112 East 64th st.
Mount, James Baker, *m*	*Jersey City, N. J.*	(202 Harrison ave.)
Moynan, William Thomas, *m*	*Brooklyn, N. Y.*	(134 Hooper st.)
Muirheid, John, *c*	*South Amboy, N. J.*	
Müller, Emil Alfred, *m*	*New York City*	345 Pleasant ave.
Müller, Julius, *s*	*New York City*	418 West 154th st.
Mund, Conrad, *m*	*New York City*	308 East 62d st.
Murphy, Eugene Joseph, *l*	*Jersey City, N. J.*	(275 Central ave.)
Murphy, George Robert, *s*	*West Hoboken, N. J.*	
Murray, Hugh Charles, *l*	*New York City*	67 West 96th st.

NAME	RESIDENCE	CITY ADDRESS
Murtha, Eugene Isherwood, *l*	*New York City*	241 West 54th st.
Myers, Saul Sidney, *l*	*New York City*	334 East 86th st.
Myrick, Frank Worman, *m*	*Binghampton, N. Y.*	341 West 59th st.
Navoni, James, *m*	*New York City*	150 Sullivan st.
Neal, John Randolph, *pl*	*Rhea Springs, Tenn.*	147 East 26th st.
Nellany, Vincent Michael, *pl*	*Buffalo, N. Y.*	16 East 56th st.
Nelson, Francis Augustus, *s*	*New York City*	108 West 84th st.
Nelson, Giffard Arthur, *c*	*Brooklyn, N. Y.*	(184 Vernon ave.)
Neresheimer, Fred Emil, *m*	*Bayside, N. Y.*	
Nesbitt, Robert Henry, *m*	*Wheeling, W. Va.*	330 West 56th st.
Nettleton, Irving La Field, *m*	*Bridgeport, Conn.*	165 West 64th st.
Neugroschl, Abraham, *c*	*New York City*	309 East 79th st.
Newberry, Merritt Eben, *c*	*New York City*	302 East 14th st.
Newborg, Leo David, *c*	*New York City*	33 East 67th st.
Newgass, George Washington, *l*	*New York City*	148 East 61st st.
Newland, David Hale, *p*	*Camden, N. Y.*	
Newman, Mortimer Lewis, *s*	*New York City*	107 East 90th st.
Newmark, Alexander, *m*	*New York City*	72 West 98th st.
Nicholas, Francis Child, *p*	*New York City*	111 Broadway
Nickerson, Henry Franklin, *l*	*Fall River, Mass.*	115 West 49th st.
Noble, Robert Ernest, *m*	*Anniston, Ala.*	181 West 75th st.
Nolte, Henry Clarence, *m*	*Milwaukee, Wis.*	25 West 60th st.
Noonan, Cornelius James, *m*	*Brooklyn, N. Y.*	(554 Henry st.)
Nordby, Conrad Hjalmar, *ph*	*New York City*	30 West 132d st.
Nordstrom, Carl Jonas, *m*	*New York City*	2386 Seventh ave.
Norman, Mark Wilber, *c*	*Darien, Conn.*	
Norrie, Adam Gordon, *l*	*New York City*	377 Fifth ave.
North, Charles Edward, *m*	*Montclair, N. J.*	
Oakley, Ainsley Cornell, *s*	*New York City*	101 West 72d st.
Oakley, Walton Livingston, *s*	*New York City*	35 East 64th st.
Obermeier, Leonard Jerome, *l*	*New York City*	220 East 48th st.
O'Brien, Francis Jeremiah, *m*	*Rochester, N. Y.*	154 West 68th st.
O'Brien, Michael Christopher, *m*	*New York City*	161 West 122d st.
O'Connell, Joseph Henry, *m*	*New York City*	129 West 64th st.
O'Conner, Charles George, *m*	*Brooklyn, N. Y.*	(400 Pacific st.)
O'Connor, Eugene Franklin, Jr. *c*	*Brooklyn, N. Y.*	(428 Clermont ave.)
O'Connor, James Henry, *m*	*New York City*	147 West 55th st.
O'Connor, James, W., *s*	*New York City*	8 East 12th st.
O'Connor, John Francis, *m*	*Long Island City, N. Y.*	(68 Vernon ave.)
O'Connor, William Aloysius, *s*	*New York City*	12 East 44th st.
Oddie, Harold Hoyle, *s*	*New York City*	59 West 48th st.
O'Donnell, William Thomas, *l*	*Bristol, R. I.*	134 East 54th st.
O'Dwyer, Joseph, *m*	*New York City*	967 Lexington ave.
Ogden, Charles Jones, *c*	*New York City*	The Metropolitan

NAME	RESIDENCE	CITY ADDRESS
Ogilvie, James, *m*	*Lawrence, Mass.*	
Okuno, Takenasuke, *ph*	*Tokyo, Japan*	(33 Poplar pl., Brooklyn)
Opp, Arthur Wellington, *l*	*Brooklyn, N. Y.*	(181 Vernon ave.)
O'Reardon, Ignatius, *s*	*New York City*	229 East 18th st.
Orgel, David Henry, *m*	*New York City*	736 East 9th st.
Orner, George Darmon, *s*	*New York City*	103 West 102d st.
Osgood, Alfred Townsend, *m*	*Rochester, N. Y.*	264 West 57th st.
Otheman, Edward Roe, *ph*	*New York City*	41 East 53d st.
Otto, CharlesLudwig, *s*	*Brooklyn, N. Y.*	(885 Bushwick ave.)
Packard, Ralph Gooding, Jr., *c*	*Brooklyn, N. Y.*	(84 Columbia Heights)
Paddock, Porter, *l*	*Carlinville, Ill.*	110 East 54th st.
Pakelnishky, Maurice, *m*	*Syracuse, N. Y.*	138 West 64th st.
Palmer, Courtlandt, *ph*	*New York City*	11 West 50th st.
Palmer, Richard Henry, *c*	*Ridgewood, N. J.*	
Palmer, Samuel Gilmore, *pl*	*Penn Yan, N. Y.*	50 East 70th st.
Palmer, Victor Edwin, *l*	*Ripon, Wis.*	220 East 50th st.
Pannaci, Charles Emonual, *m*	*Seabright, N. J.*	
Paret, Walter Palmer, *l*	*New York City*	161 West 76th st.
Parish, Edward Codman, *l*	*New York City*	1 West 19th st.
Park, William, *m*	*New York City*	86 West 103d st.
Parker, Asa Warren, Jr., *s*	*Brooklyn, N. Y.*	(149 Henry st.)
Parker, Gordon, *c*	*Brooklyn, N. Y.*	(149 Henry st.)
Parks, John Waring, *c*	*New York City*	103 East 21st st.
Parks, M. Phillips, *c*	*New York City*	103 East 21st st.
Parmly, Charles Howard, *p*	*New York City*	344 West 29th st.
Parmly, Frederic Edgar, *l*	*New York City*	134 West 57th st.
Parr, Ferdinand Van Siclen, *c*	*Brooklyn, N. Y.*	(111 Ross st.)
Parry, David, *l*	*Highland Falls, N. Y.*	165 East 49th st.
Parsons, Geoffrey, *c*	*Hempstead, N. Y.*	
Parsons, Theophilus, *c*	*Hempstead, N. Y.*	565 Park ave.
Parsons, William Edward, *s*	*Akron, O.*	73 West 49th st.
Parsons, William Usher, *l*	*New York City*	1033 Madison ave.
Parton, Arthur Taylor, *m*	*Yonkers, N. Y.*	(139 Woodworth ave.)
Pascual, William Vincent, *m*	*Brooklyn, N. Y.*	(263 Stuyvesant ave.)
Paskusz, Benjamin Gallatin, *l*	*New York City*	242 East 72d st.
Pattberg, Otto Frederick, *s*	*Jersey City Heights, N. J.*	(74 Sherman pl.)
Patterson, Henry Stuart, *m*	*New York City*	19 East 45th st.
Paulmier, Frederick Clark, *p*	*Madison, N. J.*	
Payne, William Anderson, *m*	*Chatham, Va.*	151 West 61st st.
Pearse, Frederic Montague Penley, *c*	*South Amboy, N. J.*	
Pearson, Charles Edward, *m*	*Port Richmond, N. Y.*	
Pease, Henry Hollister, *l*	*New York City*	22 West 43d st.
Peck, Samuel Minturn, *ph*	*Tuskaloosa, Ala.*	88 Madison ave.
Peck, Thomas Bloodgood, Jr., *s*	*New York City*	111 East 34th st.
Pedersen, Victor Cox, *m*	*New York City*	327 West 34th st.

NAME	RESIDENCE	CITY ADDRESS
Pelgram, George Oscar, *m*	*New York City*	337 West 88th st.
Pell, Alfred, *p*	*New York City*	20 East 35th st.
Pell, James Duane, *c*	*New York City*	13 East 29th st.
Pelton, Henry Hubbard, *m*	*Middletown, Conn.*	124 West 65th st.
Pendas, Isidor, Jr., *l*	*Brooklyn, N. Y.*	(22 Brevoort pl.)
Pendleton, Judson Philbrook, *m*	*Islesboro, Me.*	
Pentz, Julius Wilhelm, *pl*	*New York City*	41 East 69th st.
Perkins, Henry Augustus, *s*	*Hartford, Conn.*	10 East 47th st.
Perkins, Seymour, *s*	*New York City*	42 West 46th st.
Perry, Wesley Vick, *l*	*Russellville, Ky.*	144 West 34th st.
Peters, Frederick Augustus, *ph*	*New York City*	1046 Stebbins ave.
Petty, Nathan Orcutt, *c*	*Riverhead, N. Y.*	
Pfeiffer, Clarendon Henry, *s*	*New York City*	171 West 73d st.
Phelan, John Joseph, *l*	*New York City*	66 West 85th st.
Phelps, Edgar Morris, *l*	*New Rochelle, N. Y.*	
Phillips, Harold Meyer, *l*	*New York City*	221 Division st.
Pier, Garrett Chatfield, *c*	*New York City*	221 West 57th st.
Pierrepont, Henry Evelyn, Jr., *c*	*Brooklyn, N. Y.*	(216 Columbia Heights)
Pierrepont, Robert Low, *c*	*Brooklyn, N. Y.*	29 East 28th st.
Pierson, Frederick Harrison, Jr., *m*	*Elizabeth, N. J.*	(420 Linden st.)
Pindar, Frederick Standish, *m*	*Middleburg, N. Y.*	
Pitt, Rafford, *s*	*New Rochelle, N. Y.*	
Pittis, Bertram, *l*	*Plainfield, N. J.*	403 West 57th st.
Pittman, John Green, *m*	*Thomasville, Ga.*	340 West 55th st.
Planten, William Rutger John, *l*	*Brooklyn, N. Y.*	(38 Eighth ave.)
Plonsky, Samuel Edward, *s*	*New York City*	50 West 88th st.
Plotz, Isaac Israel, *m*	*Newark, N. J.*	(38 Barclay st.)
Pobe, George Otto, *m*	*Port Jervis, N. Y.*	317 West 56th st.
Pogson, Henry Berry, *l*	*New York City*	2020 Vyse ave.
Polesky, Henry Benjamin, *m*	*New York City*	54 Avenue D
Polk, Frank Lyon, *l*	*New York City*	7 East 36th st.
Pollak, Francis Deák, *l*	*Summit, N. J.*	160 East 63d st.
Pollard, Charles Whitney, *m*	*New York City*	159 Madison ave.
Pollard, David Henry, *c*	*Winnipauk, Conn.*	
Pomeroy, Ralph Brouwer, *c*	*Nyack, N. Y.*	
Pond, Ashley, Jr., *m*	*Detroit, Mich.*	106 West 64th st.
Pool, Eugene Hillhouse, *m*	*Harrison, N. Y.*	137 West 64th st.
Popper, William, *ph*	*Brooklyn, N. Y.*	(60½ Bainbridge st.)
Porter, Elisha Pender, *m*	*Rocky Point, N. C*	
Potter, Palmer Augustus, *m*	*New York City*	111 West 87th st.
Potter, Robert Knight, *s*	*New York City*	50 West 48th st.
Potter, Rockwell Harmon, *ph*	*Glenville, N. Y.*	41 East 69th st.
Powell, Irwin Augustus, *pl*	*New York City*	12 West 40th st.
Powers, Arthur Augustus, *pl*	*New York City*	9 West 87th st.
Prendergast, James William, Jr., *l*	*Brooklyn, N. Y.*	(259 Clinton st.)
Prentice, John Hill, *c*	*Brooklyn, N. Y.*	(170 Columbia Heights)

NAME	RESIDENCE	CITY ADDRESS
Pressprich, Reginald William Grant, *c*	*New York City*	416 West 146th st.
Preston, Thomas James, *ph*	*Jefferson, Tex.*	41 East 69th st.
Price, Arthur Meyer, *l*	*New York City*	113 West 75th st.
Priddy, John Emerson, *l*	*Findlay, O.*	
Probasco, Edgar Burton, *m*	*Rochester, N. Y.*	
Probasco, Norman Hayes, *m*	*Plainfield, N. J.*	118 West 69th st.
Proskauer, Joseph Meyer, *l*	*Mobile, Ala.*	116 West 136th st.
Prosser, Herman Alfred, *s*	*Brooklyn, N. Y.*	(406 Stuyvesant ave.)
Pulsifer, Tappan Chase, *m*	*Auburn, Me.*	143 West 63d st.
Putnam, Albert William, *c*	*New York City*	16 West 77th st.
Putnam, Sidney Haven, *c*	*New York City*	306 West 77th st.
Pyle, Immanuel, *m*	*Jersey City, N. J.*	(108½ Clinton ave.)
Quackenbos, George Payn, *c*	*New York City*	331 West 28th st.
Quel, Barnett, *m*	*New York City*	43 Canal st.
Quigley, John Gordon, *l*	*Goshen, N. Y.*	(931 Boulevard, Astoria)
Quinby, William O'Gorman, *m*	*Newark, N. J.*	(80 Columbia st.)
Rabinovitz, Meyer, *m*	*New York City*	60 Eldridge st.
Radau, Hugo, *ph*	*New York City*	175 Ninth ave.
Rain, James Watt, *ph*	*Oberlin, O.*	(209 Concord st., Bklyn.)
Raisman, Aaron Israel, *s*	*Newark, N. J.*	(50 Wallace st.)
Ralph, Herman Philip, *s*	*New York City*	2305 Monroe ave.
Rambaud, Georges Gibier, *m*	*New York City*	1 West 97th st.
Ramsay, Allen Lawson, *l*	*Perth Amboy, N. J.*	(256 High st.)
Randall, Henry Thomas, *c*	*Summit, N. J.*	(P. O. Box 323)
Randolph, Corliss Fitz, *ph*	*Giffords, N. Y.*	607 West 138th st.
Randolph, Lothrop, *c*	*Mt. St. Vincent, N. Y.*	
Rang, Alvin Franklin, *m*	*Brooklyn, N. Y.*	(65 Whipple st.)
Rapaport, Joseph, *s*	*Brooklyn, N. Y.*	(109 Decatur st.)
Rappold, George Washington, *s*	*Brooklyn, N. Y.*	(750 Flushing ave.)
Ratzell, Joseph Perry, *pl*	*Sanderton, Pa.*	41 East 69th st.
Raymond, Edward Holman, Jr., *c*	*Summit, N. J.*	
Raymond, Frederic Newton, *ph*	*Lawrence, Kan.*	162 West 66th st.
Raymond, Max, *s*	*New York City*	166 Henry st.
Read, Clark Potter, *s*	*New York City*	75 East 54th st.
Reardon, Mark Sylvester, *l*	*Brooklyn, N. Y.*	(209 Keap st.)
Redden, William Aloysius, *l*	*Bridgeport, Conn.*	134 East 54th st.
Redington, John Aloysius, *m*	*South Bethlehem, Pa.*	163 West 45th st.
Rees, Franklin Edwin, *c*	*Westfield, N. J.*	
Reichers, George Henry, *m*	*Brooklyn, N. Y.*	(1139 Broadway)
Reiley, Charles Conway, *l*	*New York City*	145 East 34th st.
Reiley, Robert Joseph, *s*	*New York City*	145 East 34th st.
Reilly, Joseph Aloysis, *s*	*New York City*	349 East 42d st.
Reinhardt, Emanuel	*New York City*	243 7th st.
Reinhold, Franklin Peters, *ph*	*Stoutsville, O.*	41 East 69th st.

NAME	RESIDENCE	CITY ADDRESS
Reinsberg, Charles Hermann, *m*	*New York City*	34 Varick st.
Reiss, Edgar Poe, *s*	*Brooklyn, N. Y.*	(302 McDonough st.)
Reiss, Henry, *m*	*New York City*	301 East 8th st.
Remy, Arthur Frank Joseph, *ph*	*New York City*	415 St. Nicholas ave.
Reynolds, Harry Badger, *m*	*Oakland, Cal.*	
Reynolds, Jackson Eli, *l*	*Oakland, Cal.*	50 West 51st st.
Reynolds, James Bronson, *pl*	*New York City*	26 Delancey st.
Rich, Walter Henry, *c*	*Atlanta, Ga.*	15 West 69th st.
Rider, Chester Crosby, *c*	*Brookfield, Mo.*	(147 North ave.) Plainfield, N. J.
Ridgway, William Combs, *l*	*Jersey City, N. J.*	(18 Kensington ave.)
Riederer, Emil Justus, *s*	*New York City*	145 West 94th st.
Riker, John Lawrence, 2d, *l*	*New York City*	27 East 69th st.
Ringert, William, *l*	*Laramie, Wyo.*	117 West 46th st.
Rionda, Manuel Enrique, *s*	*New York City*	141 West 93d st.
Rippe, Maurice Louis, *l*	*New York City*	24 Division st.
Riter, Levi Evans, Jr., *s*	*Salt Lake City, Utah*	123 East 57th st.
Riter, William Delamater, *l*	*Salt Lake City, Utah*	123 East 57th st.
Robbins, William Henry, *l*	*Bay Shore, N. Y.*	
Roberts, Clifford Charles, *l*	*New York City*	72 West 94th st.
Roberts, Dudley DeVore, *m*	*Newark, N. J.*	(372 Clinton ave.)
Roberts, Gerard, *c*	*Brooklyn, N. Y.*	(59 Seventh ave.)
Robinson, Alonzo Clark, *c*	*New York City*	23 East 21st st.
Robinson, Joseph, Jr., *m*	*New York City*	134 West 61st st.
Rochester, Haydon, *c*	*Brooklyn, N. Y.*	(2 St. James pl.)
Roelker, Alfred, Jr., *l*	*New York City*	202 West 45th st.
Roemer, William Benjamin, *m*	*Utica, N. Y.*	140 East 49th st.
Roff, Augustine Ward, *m*	*Newark, N. J.*	(603 Orange st.)
Rogers, Charles Edward, *s*	*New York City*	6 West 125th st.
Rogers, Edward Washburn, *s*	*New York City*	372 Manhattan ave.
Rogers, Richard Morrison, Jr., *c*	*Macon, Ga.*	67 West 49th st.
Roof, Stephen White, *m*	*New York City*	54 West 17th st.
Ropes, Ernest Chapin, *c*	*Brooklyn, N. Y.*	(125 Willow st.)
Ropes, William, *s*	*Brooklyn, N. Y.*	(125 Willow st.)
Ros, Juan Pablo, *s*	*Cienfuegos, Cuba*	115 West 49th st.
Rosenberg, Daniel Davis, *c*	*Brooklyn, N. Y.*	(906 President st.)
Rosenberg, Edward Aaron, *m*	*New York City*	240 East 30th st.
Rosenberg, James Naumburg, *l*	*New York City*	230 West 78th st.
Rosenberg, Maurice, *m*	*New York City*	240 East 30th st.
Rosensohn, William, *m*	*New York City*	49 Eldridge st.
Rosenwasser, Charles Adolph, *m*	*Newark, N. J.*	(219 Littleton ave.)
Rosett, Louis Jerome, *l*	*New York City*	1676 Avenue A
Ross, Herbert Weed, *s*	*Newark, N. J.*	655 Lexington ave.
Ross, Nathan Olin, *l*	*Logansport, Ind.*	125 West 21st st.
Rossi, Louis Mansfield, *s*	*Perth Amboy, N. J.*	134 West 83d st.
Rothwell, Thomas Albert, *m*	*New York City*	112 West 116th st.

NAME	RESIDENCE	CITY ADDRESS
Rowe, Allan Conn, *l*	*Brooklyn, N. Y.*	(550 Washington ave.)
Rowe, John C., *l*	*South Bethlehem, N. Y.*	595 Lexington ave.
Rowe, Norman Leslie, Jr., *m*	*Jersey City, N. J.*	(647 Jersey ave.)
Rubenstein, Charles Aaron, *ph*	*Little Rock, Ark.*	The Audubon
Rubenstein, George, *l*	*New York City*	112 East 80th st.
Ruhl, Henry Clay, *m*	*New York City*	520 Lowell st.
Rumsey, David, *l*	*Bath, N. Y.*	200 West 56th st.
Rundquist, Emil Albin, *m*	*New York City*	St. Luke's Hospital
Rupp, August, *ph*	*New York City*	225 East 19th st.
Ruppert, George, *s*	*New York City*	141 West 96th st.
Ruppert, George Ehret, *l*	*New York City*	1116 Fifth ave.
Russell, James Townsend, *c*	*Brooklyn, N. Y.*	(220 Columbia Heights)
Russell, Tracy George, *m*	*San Francisco, Cal.*	101 West 73d st.
Rutz, Anthony Alexander, *m*	*Brooklyn, N. Y.*	(153 Huntington st.)
Rydberg, Per Axel, *p*	*New York City*	589 Lexington ave.
Ryder, George Hope, *m*	*Plainfield, N. J.*	
Ryker, Henry Benson, *s*	*New York City*	19 West 123d st.
Sabel, Stanley Owen, *m*	*Bowling Green, Ky.*	217 East 68th st.
Sabine, Philip Schieffelin, *m*	*New York City*	960 Madison ave.
St. Clair, Harry Hull, Jr., *c*	*New York City*	347 West 123d st.
St. John, Edward Emerson, *ph*	*Salem, Ind.*	41 East 69th st.
Salant, William, *m*	*New York City*	348 East 78th st.
Sandy, William Charles, Jr., *c*	*Newark, N. J.*	
Sanford, Henry Gansevoort, *l*	*Poughkeepsie, N. Y.*	30 East 39th st.
Sanford, James Brownlee, *m*	*Syracuse, N. Y.*	St. Denis Hotel
Sargent, Charles Chapin, Jr., *c*	*New York City*	28 East 73d st.
Satterlee, Edward Lansing, *s*	*New York City*	60 East 78th st.
Satterlee, George Reese, *m*	*New York City*	60 East 78th st.
Satterlee, Henry Suydam, *m*	*New York City*	8 West 18th st.
Saunders, George Crosby, *s*	*New York City*	513 West 142d st.
Saunders, Norman Brown, *m*	*Forestville, N. Y.*	129 West 61st st.
Sawyer, Henry Hathorn, *c*	*South Gardiner, Me.*	68 West 48th st.
Saxe, George Alexander, *m*	*New York City*	178 East 78th st.
Sayres, John Huntting, *s*	*Brooklyn, N. Y.*	(456 Classon ave.)
Scarff, Paul Brown, *l*	*Burlington, Ia.*	152 East 60th st.
Schafer, Algernon Sidney, *c*	*New York City*	52 West 46th st.
Schafran, Leo, *l*	*New York City*	1644 Madison ave.
Schanck, William Hunt, *s*	*New York City*	101 West 73d st.
Schaper, William August, *pl*	*Madison, Wis.*	
Scherrer, Josef Anton, *s*	*Indianapolis, Ind.*	140 East 54th st.
Schimmel, John, Jr., *s*	*East Orange, N. J.*	(74 Orange st.)
Schlecht, Walter William, *s*	*New York City*	446 East 57th st
Schlegel, John William, *s*	*New York City*	602 East 5th st.
Schleider, Moses Nachmin, *l*	*New York City*	103 Forsyth st.
Schlesinger, Frank, *p*	*New York City*	106 East 55th st.

NAME	RESIDENCE	CITY ADDRESS
Schley, Henry Spaulding, *c*	*New York City*	1 East 42d st.
Schley, James Montfort, Jr., *c*	*New York City*	1 East 42d st.
Schlussel, Jacob Smith, *c*	*New York City*	37 West 74th st.
Schlussel, Walter Sylvan, *c*	*New York City*	37 West 74th st.
Schnecker, William Augustus Muhlenberg, *m*	*New York City*	235 East 52d st.
Schneidenbach, Arthur Jacques, *m*	*New York City*	105 East 75th st.
Schoenherr, Henry, Jr., *l*	*Brooklyn, N. Y.*	(150 Wythe ave.)
Scholey, Charles Herbert, *ph*	*Cleveland, O.*	41 East 69th st.
Schroeder, Detlef Heinrich, *ph*	*Council Bluffs, Ia.*	41 East 69th st.
Schroeder, Henry, *s*	*New York City*	137 Madison ave.
Schroeder, William Moller, *m*	*New York City*	230 West 135th st.
Schulhofer, Samuel	*New York City*	628 5th st.
Schütz, Walter Stanley, *l*	*New York City*	65 West 52d st.
Schuyler, Montgomery, Jr., *c*	*New York City*	1025 Park ave.
Schwarz, Herman, *m*	*New York City*	1764 Madison ave.
Schwarz, Irving E., *l*	*Dover, N. J.*	150 East 53d st.
Scofield, Charles Edward, *m*	*Brooklyn, N. Y.*	(152 Taylor st.)
Scudder, Hewlett, Jr., *s*	*New York City*	21 East 22d st.
Seelig, Major Gabriel, *m*	*Helena, Ark.*	143 West 61st st.
Seely, Walter, *s*	*New York City*	530 West 182d st.
Seguine, Edward Murray, *c*	*Rosebank, N. Y.*	
Selfridge, Edward Augustus, Jr., *l*	*San Francisco, Cal.*	4 East 43d st.
Senftner, Alexis Eugene, *c*	*New York City*	108 West 136th st.
Senftner, George Washington, *c*	*New York City*	108 West 136th st.
Senftner, Herman Francis, *m*	*New York City*	108 West 136th st.
Sessinghaus, Gustavus, *s*	*St. Louis, Mo.*	143 West 43d st.
Severino, Joseph Minnelli, *m*	*New York City*	76 East 93d st.
Seward, Frederic Kimber, *c*	*New York City*	113 West 85th st.
Seward, George Oulton, *s*	*East Orange, N. J.*	
Seward, Samuel Swayze, Jr., *ph*	*New York City*	113 West 85th st.
Shanahan, Robert Henderson, *m*	*Tarrytown, N. Y.*	(14 S. Washington st.)
Shanahan, William Seward, *c*	*Brooklyn, N. Y.*	(17 Prospect pl.)
Shangle, Milton Allison, *m*	*Roselle, N. J.*	
Shattuck, Edwin Paul, *l*	*Portland, Ore.*	138 Lexington ave.
Shaw, Arthur Wynne, *ph*	*Paterson, N. J.*	Box 48, Chelsea sq.
Shearman, Robert Willis, *c*	*Long Island City, N. Y.*	(398 Van Pelt st.)
Shepard, Frederic White, *l*	*Brooklyn, N. Y.*	(81 Columbia Heights)
Shepherd, Grant, *c*	*Batopilas, Mex.*	104 West 48th st.
Sherer, Prescott Alfriend, *c*	*Hempstead, N. Y.*	
Sherman, Henry Clapp, *p*	*Ash Grove, Va.*	232 West 55th st.
Shields, John Aloysius, *m*	*Brooklyn, N. Y.*	(135 Ainslie st.)
Shimmon, Paul, *c*	*Urmi, Persia*	144 East 55th st.
Shipley, Alfred Edward, *m*	*Brooklyn, N. Y.*	(239 Keap st.)
Shipman, Clark Smythe, *m*	*New York City*	1 West 128th st.
Shirrefs, Russell Aber, *m*	*Elizabeth, N. J.*	(571 Madison ave.)
Shrier, Albert Franklin, *m*	*New York City*	128 Avenue C

NAME	RESIDENCE	CITY ADDRESS
Sicard, Montgomery Hunt, *m*	*New York City*	127 West 61st st.
Sichel, Eugene, *c*	*New York City*	146 West 80th st.
Siegel, Harold Lawrence, *c*	*Salt Lake City, Utah*	St. Lorenz Hotel
Simmons, James Dickinson, *ph*	*Hagerstown, Md.*	41 East 69th st.
Simon, Theodore William, *m*	*New York City*	1642 Madison ave.
Simons, Edward Henry Harriman, *m*	*New York City*	147 West 74th st.
Simonson, Lawrence Mason, *s*	*New York City*	293 Lenox ave.
Simpson, Herman, *pl*	*New York City*	312 Madison st.
Simpson, Richard Gordon, *c*	*Plainfield, N. J.*	
Simpson, William Thornton, *s*	*New York City*	458 West 24th st.
Singerman, Samuel Adams, *l*	*New York City*	405 West 48th st.
Sinsheimer, Alexander Leopold, *s*	*New York City*	7 East 80th st.
Sites, Clement Moore Lacey, *pl*	*Washington, D. C.*	129 Lexington ave.
Skougaard, Jens Christian Lund, *s*	*New York City*	1 West 72d st.
Slade, Harvey Shattuck, *c*	*Yonkers, N. Y.*	(95 Woodworth ave.)
Slaven, Ralph Edward, *s*	*New York City*	119 West 72d st.
Slevin, John Joseph, *m*	*New York City*	47 East 126th st.
Slevin, Walter Thomas, *m*	*Brooklyn, N. Y.*	(47 Eighth ave.)
Sloan, Thomas George, *m*	*New Haven, Conn.*	447 West 57th st.
Slocum, Charles Mills, *l*	*Port Jervis, N. Y.*	128 East 28th st.
Smith, Alexander Godfrey, *c*	*Brooklyn, N. Y.*	95 Grand st.
Smith, Bryon Weed, *s*	*Yonkers, N. Y.*	(58 Lamartine ave.)
Smith, Burnett, *s*	*New York City*	144 West 73d st.
Smith, Davison Heermance, *c*	*New York City*	15 East 38th st.
Smith, Frank Gerard, *s*	*New Rochelle, N. Y.*	(93 Neptune ave.)
Smith, Fred Willard, *m*	*Richfield Springs, N. Y.*	47 West 49th st.
Smith, Gerald Birney, *ph*	*Middlefield, Mass.*	167 East 77th st.
Smith, Harry Victor, *m*	*Jersey City, N. J.*	(102 Palisade ave.)
Smith, John Archibald, *m*	*Peekskill, N. Y.*	353 West 58th st.
Smith, John P., *l*	*New York City*	355 West 17th st.
Smith, Leonard Bacon, Jr,, *s*	*Yonkers, N. Y.*	(58 Lamartine ave.)
Smith, Letchworth, *m*	*Auburn, N. Y.*	216 West End ave.
Smith, Oliver, *c*	*New York City*	460 West 44th st.
Smith, Oscar Bloodgood, Jr., *s*	*Morristown, N. J.*	37 Broad st.
Smith, Philip, *m*	*New York City*	534 West 45th st.
Smith, Robert Newhall, *m*	*New York City*	11 West 64th st.
Smith, William Allen, Jr., *s*	*New York City*	102 East 57th st.
Snyder, John Hebard, *l*	*West Hoboken, N. J.*	(121 Palisade ave.)
Solley, John Beach, Jr., *m*	*New York City*	319 West 101st st.
Solomon, Mortimer, *l*	*New York City*	122 Ridge st.
Sommerich, Otto Charles, *l*	*New York City*	175 East 79th st.
Soper, Emmet Harland, *l*	*Emmetsburg, Ia.*	
Soper, Erastus Burrows, Jr., *l*	*Emmetsburg, Ia.*	
Southack, John William, *c*	*Morristown, N. J.*	
Spalding, Alfred Baker, *m*	*Atchison, Kan.*	345 West 55th st.
Sparrow, James Everett, *c*	*Brooklyn, N. Y.*	(628 Bedford ave.)

NAME	RESIDENCE	CITY ADDRESS
Spaulding, Edward Gleason, *ph*	*Burlington, Vt.*	20 East 50th st.
Spencer, Frederick Hallett, *m*	*Waverly, N. Y.*	122 West 91st st.
Spencer, William Sawyer, *ph*	*Springfield, Vt.*	41 East 69th st.
Spiegel, Leo, *m*	*New York City*	317 East 30th st.
Spiegelberg, Eugene Edward, *c*	*New York City*	156 West 44th st.
Spiller, Robert Lawrence, *s*	*New York City*	159 West 45th st.
Spingarn, Arthur Barnett, *c*	*New York City*	118 East 58th st.
Spingarn, Joel Elias, *ph*	*New York City*	118 East 58th st.
Sporborg, William Dick, *l*	*Albany, N. Y.*	111 East 65th st.
Squire, Amos Osborne, *m*	*Cold Spring, N. Y.*	437 West 44th st.
Staab, Julius, *l*	*Santa Fé, N. M.*	
Stafford, Harry Grant, *m*	*New York City*	225 West 126th st.
Stagg, Frank Munson, *m*	*Paterson, N. J.*	(94 N. Main st.)
Staib, Louis Loyall, *m*	*Newark, N. J.*	(82 Parkhurst st.)
Stander, Isaac, *s*	*New York City*	315 East 77th st.
Stark, Francis Raymond, *pl*	*New York City*	30 West 47th st.
Stark, Meyer Maurice, *m*	*New York City*	87 Baxter st.
Staunton, Henry Capen, *c*	*New York City*	145 West 46th st.
Steedly, Benjamin Broadus, *m*	*Athens, Ga.*	340 West 55th st.
Steele, David McConnell, *ph*	*New Alexandria, Pa.*	700 Park ave.
Stein, Morton, *l*	*New York City*	254 East 112th st.
Steinback, Gustav Erwin, *s*	*New York City*	52 Barclay st.
Steinberger, Jerome Sewell, *m*	*New York City*	153 East 61st st.
Steinert, Henry, Jr., *l*	*New York City*	141 East 57th st.
Stephens, John Walter, *ph*	*Honey Grove, Tex.*	41 East 69th st.
Stern, Abram Richard, *m*	*New York City*	55 West 50th st.
Stern, Benjamin Horace, *l*	*New York City*	133 East 80th st.
Stern, Harry Levy, *l*	*St. Louis, Mo.*	(Ludlow, Yonkers)
Stern, Max, *m*	*Newark, N. J.*	228 Mt. Pleasant ave.
Stern, Nathan, *c*	*New York City*	448 West 43d st.
Stern, Randall Hoyt, *c*	*New York City*	252 West 131st st.
Stevens, Theodosius Fowler, *c*	*Cottage Castle Point, N. J.*	
Stevenson, Robert, *m*	*Brooklyn, N. Y.*	(97 India st.)
Stevenson, Robert Alston, *pl*	*Burnham, Pa.*	103 West 63d st.
Stewart, Albert Cross, *ph*	*Sumner, Wash.*	41 East 69th st.
Stewart, Calvin Wilfred, *ph*	*Sumner, Wash.*	41 East 69th st.
Stewart, James Fleury, *m*	*Cold Spring Harbor, N. Y.*	
Stewart, Robert William, *l*	*New York City*	123 West 11th st.
Stewart, William James, *l*	*New York City*	169 East 34th st.
Stillwell, Albert Gladding, *s*	*Brooklyn, N. Y.*	(164 St. John's pl.)
Stock, Henry, *m*	*New York City*	16 West 61st st.
Stoddart, Charles William, *c*	*Yonkers, N. Y.*	(13 Ludlow st.)
Stokes, James Graham Phelps, *pl*	*New York City*	229 Madison ave.
Stone, Harlan Fiske, *l*	*New York City*	17 East 46th st.
Stone, Nahum Isaac, *pl*	*New York City*	163 Henry st.
Stone, Squire Wilbert, *m*	*New York City*	351 West 27th st.

NAME	RESIDENCE	CITY ADDRESS
Stone, William, *m*	*Danbury, Conn.*	
Stout, Joseph Suydam, Jr., *s*	*New York City*	35 East 67th st.
Stradling, Frank, *m*	*Hamilton, N. Y.*	947 Amsterdam ave.
Stratford, Thomas Alexander, *s*	*Brooklyn, N. Y.*	134 Berkeley pl.
Strauss, Israel, *m*	*New York City*	32 West 120th st.
Strauss, Lester, *s*	*New York City*	60 St. Mark's pl.
Strauss, Morris Lincoln, *c*	*College Point, N. Y.*	
Streeter, George Linius, *m*	*Johnstown, N. Y.*	153 West 61st st.
Strunsky, Simeon, *c*	*New York City*	224 East 109th st.
Stürcke, Louis, *pl*	*New York City*	145 Lexington ave.
Sturges, Ralph Alonzo, *l*	*New York City*	61 West 51st st.
Sturtz, Samuel, *l*	*New York City*	165 East 49th st.
Sumner, Francis Bertody, *p*	*East Orange, N. J.*	
Sutro, Harry Herbert, *s*	*New York City*	60 West 49th st.
Sutton, Edward Forrester Holden, *m*	*New York City*	Audubon Park
Swanick, James Robert, *m*	*Saratoga, N. Y.*	28 West 61st st.
Sweeney, Richard Edward, *m*	*New York City*	
Symmes, William Bittle, Jr., *c*	*New York City*	Hotel Winthrop
Tamblyn, William Thomas Ferguson, *ph*	*Whitby, Ont.*	244 East 50th st.
Tannenbaum, Samuel Aaron, *m*	*New York City*	353 East Houston st.
Tanner, Edwin Platt, *c*	*Paterson, N. J.*	(80 Pearl st.)
Tanzer, Laurence Arnold, *l*	*New York City*	109 West 77th st.
Tarler, George Cornell, *l*	*New York City*	239 West 113th st.
Tarum, William, Jr., *m*	*Baltimore, Md.*	
Tatlock, James Lloyd, *s*	*Pelham Manor, N. Y.*	
Taylor, Alfred Samuel Guido, *s*	*New York City*	205 West 57th st.
Taylor, Benjamin Irving, *l*	*Rye, N. Y.*	
Taylor, John Mortimer, *m*	*Holley, N. Y.*	407 West 57th st.
Taylor, Joseph Russell, *ph*	*Zanesville, O.*	Hotel Westerly
Taylor, Walter, *m*	*Hackensack, N. J.*	
Tebbetts, Theodore Charles, *l*	*Lynn, Mass.*	32 West 26th st.
Tegen, Frederick Henry, *l*	*Clinton, N. J.*	(Clinton pl.)
Temple, Truman Roswell, *pl*	*New York City*	128 West 90th st.
Tenney, Alvan Alonzo, *c*	*Brooklyn, N. Y.*	(151 Hewes st.)
Thayer, Stephen Fraser, *l*	*Yonkers, N. Y.*	
Thomas, Hiram, *l*	*Irwin, Va.*	9 East 22d st.
Thomas, Pride Jones, *m*	*Wilmington, N. C.*	
Thomas, William Shepard, *s*	*Oakland, Cal.*	30 West 27th st.
Thompson, Frederic Maurice, *l*	*Philadelphia, Pa.*	44 East 51st st.
Thompson, Jay Linton, *l*	*New York City*	24 West 85th st.
Thompson, John Henry, *pl*	*New York City*	41 East 69th st.
Thompson, Moreton Reginald, *s*	*New York City*	110 East 46th st.
Thorne, Victor Corse, *l*	*Bridgeport, Conn.*	28 East 49th st.
Thorner, Moses, *m*	*New York City*	121 West 61st st.
Tibbals, Rowland Gilbert, *s*	*Brooklyn, N. Y.*	(148 Milton st.)

NAME	RESIDENCE	CITY ADDRESS
Tiemann, Hugh Philip, *s*	*New York City*	W. 127th st. & Boulevard
Tierney, Myles Joseph, *m*	*New York City*	271 West 73d st.
Tillotson, William Leslie, *c*	*Atlantic Highlands, N. J.*	
Tilt, Benjamin Bricklyn, *s*	*New York City*	5 East 67th st.
Timme, Walter, *m*	*New York City*	2 River View terrace
Titcomb, Harold Abbot, *s*	*Brooklyn, N. Y.*	(101 Lafayette ave.)
Tobias, Leo, *m*	*New York City*	321 East 52d st.
Todd, Luther Anson, *m*	*Atchison, Kan.*	345 West 55th st.
Toering, Albert John, *m*	*Newark, N. J.*	(54 Nelson pl.)
Tomlinson, Rolland Davis, *m*	*Plainfield, N. J.*	(212 La Grande ave.)
Tompkins, Frank Edward, *m*	*New York City*	261 West 16th st.
Toms, Nathaniel Compton, *l*	*Morristown, N. J.*	
Torossian, Bedros Reuben, *ph*	*New York City*	41 East 69th st.
Torosyan, Hovhannes T., *ph*	*Turkey*	41 East 69th st.
Tousey, Ralph, *m*	*New York City*	151 West 76th st.
Trapote, Ramiro, *s*	*New York City*	130 West 29th st.
Tripp, Ross William, *l*	*New York City*	356 West 23d st.
Trudeau, Edward Livingston, Jr., *m*	*Saranac Lake, N. Y.*	129 West 64th st.
Tucker, Joseph Whittemore Sweet, *l*	*New York City*	
Tudor, William, Jr., *s*	*Boston, Mass.*	123 East 58th st.
Tufts, Frank Leo, *p*	*Yellow Springs, O.*	144 East 55th st.
Turner, Leslie Allin, *m*	*Brooklyn, N. Y.*	(256 Hancock st.)
Turner, Wallis Smythe, *c*	*New York City*	105 East 83d st.
Turnure, Percy Rivington, *m*	*New York City*	417 Fifth ave.
Tuttle, Charles Henry, *c*	*New York City*	218 West 46th st.
Tuttle, William Ransom, *pl*	*Burton, O.*	142 West 49th st.
Tyler, Ansel Augustus, *p*	*Easton, Pa.*	132 East 54th st.
Tyler, William Seymour, *l*	*Plainfield, N. J.*	143 East 21st st.
Uhl, Carl Manfred, *m*	*New York City*	113 East 60th st.
Ullman, Albert Eckhardt, *m*	*New York City*	168 West 87th st.
Underhill, Arthur Dudley, *s*	*Yonkers, N. Y.*	(18 Overlook terrace)
Underhill, John Garrett, *ph*	*Brooklyn, N. Y.*	(97 Lafayette ave.)
Vail, Newton Foster, *ph*	*Geneva, N. Y.*	127 East 52d st.
Valentine, Morris Crawford, *m*	*New York City*	259 West 131st st.
Van Cise, Edwin Basil Courtlandt, *m*	*Summit, N. J.*	
Van Deerlin, Reginald Wellesley, *s*	*New York City*	36 Charlton st.
Van Der Clock, Cornelius, *m*	*Paterson, N. J.*	(54 Mercer st.)
Vanderveer, George Francis, *l*	*Grinnell, Iowa*	
Van Deventer, Christopher, *s*	*Knoxville, Tenn.*	626 Lexington ave.
Van Doren, George Bickford, *m*	*Chaumont, N. Y.*	134 West 90th st.
Van Dyck, William Van Bergen, *s*	*New Brunswick, N. J.*	47 West 93d st.
Van Name, Warren Mersereau, *c*	*Tottenville, N. Y.*	
Van Ness, William Percy, *m*	*New York City*	53 East 25th st.
Van Patten, Philip Schuyler, *m*	*New York City*	24 West 60th st.

NAME	RESIDENCE	CITY ADDRESS
Van Voorhes, Bartow White, 2d, *s*	*New Brighton, N. Y.*	
Van Vranken, Albert Bensen, *m*	*Brooklyn, N. Y.*	(152 So. 9th st.)
Van Wagenen, Hubert, Jr., *s*	*New York City*	36 East 53d st.
Vaughan, Clifford Wheaton, *p*	*New York City*	47 West 83d st.
Vibbert, William Welsh, *m*	*New York City*	11 East 24th st.
Vinton, Stallo, *c*	*New Rochelle, N. Y.*	(99 Centre ave.)
Virgin, Frederic Oakman, *m*	*New York City*	148 West 121st st.
Vogel, Karl Max, *m*	*New York City*	231 West 71st st.
Vogel, Martin Heyman, *c*	*New York City*	56 East 80th st.
Vogt, Carl Vernon, *l*	*Morristown, N. J.*	
Vom Baur, Carl Hans, *s*	*New York City*	12 Boulevard pl.
Vostrovsky, Jerome Jaroslav, *m*	*San José, Cal.*	228 East 71st st.
Vredenburgh, Watson, Jr., *s*	*High Bridge, N. Y.*	
Vreeland, Clarence Le Fever, *m*	*Hasbrouck Heights, N. J.*	418 West 58th st.
Wadhams, Raymond Lynde, *m*	*Wilkes Barre, Pa.*	346 West 58th st.
Waechter, Adolf Louis, *m*	*New York City*	220 East 10th st.
Wager, Westen Wesley, *c*	*Brooklyn, N. Y.*	(463 Classon ave.)
Wagner, Oscar, *l*	*New York City*	60 East 93d st.
Wagner, Otto, *s*	*Red Bank, N. J.*	49 East 72d st.
Wagner, Webster, *c*	*Brooklyn, N. Y.*	(64 Macon st.)
Wainwright, Jonathan Mayhew, *m*	*Hartford, Conn.*	348 West 56th st.
Wakefield, Fred Symonds, *m*	*Lewiston, Me.*	143 West 63d st.
Waldenberger, Charles Adolph, *s*	*New York City*	155 East 37th st.
Waldo, Rhinelander, *s*	*New York City*	Madison ave. & 72d st.
Walker, Clarence Frederick, *l*	*Guttenberg, N. J.*	(72 Hudson ave.)
Walker, Isaac Leander, *m*	*Waverly, N. Y.*	152 East 56th st.
Walker, John Edwin, *l*	*Tacoma, Wash.*	29 East 46th st.
Walker, Roberts, *l*	*New York City*	55 West 74th st.
Wallace, Charlton, *m*	*Lexington, Ky.*	101 West 40th st.
Wallace, William Seward, *p*	*Nyack, N. Y.*	
Walser, Frederic Theodore, *m*	*New Brighton, N. Y.*	
Walsh, James Joseph Sebastian, *m*	*New York City*	West Chester
Walsh, Louis Angelo, *s*	*Waterbury, Conn.*	148 East 49th st.
Walter, Edwin Joseph, *c*	*New York City*	28 East 60th st.
Walz, Ernest Louis, Jr., *pl*	*Plainfield, N. J.*	41 East 69th st.
Ward, Alan Haworth, *l*	*Alameda, Cal.*	67 West 49th st.
Ward, Sylvester L'Hommedieu, Jr., *c*	*White Plains, N. Y.*	
Ware, Arthur, *s*	*New York City*	1285 Madison ave.
Warren, George Linden, *m*	*Newark, N. J.*	(77 Houston st.)
Washburn, Philip Carter, *m*	*Hartford, Conn.*	118 West 69th st.
Washington, William Morrow, *ph*	*Newport, Ky.*	220 East 50th st.
Wason, David Boughton, *m*	*Port Richmond, N. Y.*	
Waterhouse, Ernest Coniston, *m*	*Honolulu, Hawaiian Islands*	127 West 64th st.
Waterman, Harry Simonds, *s*	*Yonkers, N. Y.*	(166 Hawthorne ave.)
Waterman, William Whitney, *m*	*New York City*	153 West 61st st.

NAME	RESIDENCE	CITY ADDRESS
Watkins, Albert Lent, *s*	*New York City*	538 West 149th st.
Watson, Charles, *pl*	*Sullivan, Ill.*	700 Park ave.
Watson, Elbert Lycurgus, *m*	*Newport, Ark.*	
Watson, Jesse, Jr., *c*	*Brooklyn, N. Y.*	(263 Hancock st.)
Watson, Oscar, *m*	*New York City*	117 West 90th st.
Waugh, Justin Miner, Jr., *m*	*New York City*	155 West 66th st.
Weaver, William Minten, Jr. *c*	*New York City*	78 West 54th st.
Weber, Adna Ferrin, *pl*	*Salamanca, N. Y.*	220 East 50th st.
Weber, Leonard Gruner, *m*	*New York City*	569 Park ave.
Webster, William Clarence, *pl*	*Chicago, Ill.*	164 East 38th st.
Weed, Richmond, *l*	*Flushing, N. Y.*	(30 Jamaica ave.)
Weed, Vernooy Wayland, *m*	*Brooklyn, N. Y.*	(675 Jefferson ave.)
Weekes, Frederic Robert, *s*	*New York City*	293 Lenox ave.
Weil, Henry Lehman, *c*	*New York City*	42 West 70th st.
Weil, Milton, *pl*	*New York City*	35 West 74th st.
Weil, Richard, *m*	*New York City*	109 West 77th st.
Weinstein, Julius, *m*	*New York City*	176 Ludlow st.
Weinstein, Maximilian, *s*	*New York City*	109 West 82d st.
Weinstein, Maye, *c*	*New York City*	109 West 82d st.
Weir, William Nicholas, *ph*	*Carmel, N. Y.*	700 Park ave.
Weisse, Faneuil Suydam, *c*	*New York City*	46 West 20th st.
Welch, John Edgar, *m*	*Bloomington, Ill.*	
Wells, Jonathan Godfrey, *m*	*Southport, Conn.*	
Wendt, Charles Rudolph, *l*	*New York City*	40 West 69th st.
Werdenschlag, Arthur, *l*	*New York City*	140 West 48th st.
Wessells, Eugene Herbert, *s*	*New York City*	43 West 91st st.
Westerfield, William Rogers, *c*	*New York City*	109 West 123d st.
Weston, Edward Faraday, *s*	*Newark, N. J.*	(645 High st.)
Wettengel, Walter, *m*	*New York City*	154 East 34th st.
Wharton, George Wilson, *c*	*Brooklyn, N. Y.*	(586 Washington ave.)
Wheaton, Charles Frederick, *c*	*Yonkers, N. Y.*	(224 Buena Vista ave.)
Wheeler, Alfred Winslow, *m*	*Oakland, Me.*	
Wheeler, David Everett, *m*	*New York City*	731 Park ave.
Wheeler, Richard Kimble, *m*	*Rochester, N. Y.*	153 West 61st st.
Wheeler, Shelton King, *l*	*Chattanooga, Tenn.*	29 East 46th st.
Wheeler, William Louis, *m*	*New York City*	262 West 23d st.
Wheelock, Harvey Lincoln, *l*	*Worcester, Mass.*	32 East 45th st.
Whitacre, Marion, *m*	*Morrow, O.*	431 West 57th st.
White, Andrew Joseph, Jr., *l*	*New York City*	6 Mt. Morris Pk. W.
White, Gilbert Crocker, *m*	*Bloomfield, N. J.*	
White, John Francis, *m*	*Rome, N. Y.*	223 West 69th st.
White, Stewart Edward, *l*	*Grand Rapids, Mich.*	18 West 32d st.
White, Lazarus, *s*	*New York City*	14 East 120th st.
White, Thomas Gilbert, *c*	*Grand Rapids, Mich.*	18 West 32d st.
Whitefield, William Brown, *m*	*Paducah, Ky.*	
Whitehead, Will Carleton, *l*	*Westfield, N. J.*	

NAME	RESIDENCE	CITY ADDRESS
Whitenack, Miller Royal, *m*	*Newark, N. J.*	(19 Bathgate pl.)
Whittaker, Thomas Shirley, *c*	*New York City*	71 East 66th st.
Wielar, Abraham, *l*	*New York City*	251 East 84th st.
Wiers, Edgar Swan, *ph*	*Cleveland, O.*	41 East 69th st.
Wigham, Reginald Effingham, *l*	*New York City*	142 East 40th st.
Wilcomb, Chester James, *ph*	*Chester, N. H.*	41 East 69th st.
Willets, Walter Roland, *m*	*Brooklyn, N. Y.*	338 West 59th st.
Williams, Alexander Shives, *s*	*New York City*	8 West 95th st.
Williams, Charles Mallory, *m*	*Brooklyn, N. Y.*	124 West 65th st.
Williams, James Dawes, *l*	*North Adams, Mass.*	Murray Hill Hotel
Williams, John, *ph*	*New York City*	551 Fifth ave.
Williams, John Nelson, *c*	*Bedford, N. Y.*	(377 Macon st., Bklyn)
Williams, John Townsend, Jr., *s*	*New York City*	70 West 46th st.
Williams, Linsly Rudd, *m*	*New York City*	149 East 37th st.
Williams, Robert Edward, *s*	*Buffalo, N. Y.*	337 West 58th st.
Williamson, Henry Christie, *m*	*New York City*	456 West 144th st.
Wilson, Arthur Starkey, *m*	*New York City*	2575 Marion ave., Fordham
Wilson, Claude Lucas, *m*	*Middletown, Conn.*	147 West 61st st.
Wilson, David William, Jr., *s*	*Brooklyn, N. Y.*	(381 Greene ave.)
Wilson, Edward Earl, *m*	*Dallas, Tex.*	407 West 57th st.
Wilson, John Howard, *p*	*New York City*	236 West 74th st.
Wilson, Jonathan Dunham, Jr., *c*	*Newburgh, N. Y.*	69 West 48th st.
Wilson, Philip Sheridan, *m*	*Nyack, N. Y.*	
Wilson, William Caldwell, *m*	*Blossburg, Pa.*	
Winchester, Walter Henry, *m*	*Warren, Minn.*	447 West 57th st.
Wing, Arthur Kyle, *l*	*North East, Pa.*	
Winter, Allen Lawrence, *m*	*Bloomington, Ill.*	
Wise, Arthur Heston, *m*	*Albany, N. Y.*	327 West 55th st.
Wolbarst, Abraham Leo, *m*	*New York City*	187 Henry st.
Wolff, Hans Hermann, *s*	*New York City*	224 West 79th st.
Wood, Alfred Charles, *m*	*New York City*	111 West 74th st.
Wood, Charles Fiske, *c*	*Brooklyn, N. Y.*	
Wood, Ernest Wetherill, *c*	*Flushing, N. Y.*	23 West 26th st.
Wood, Jeremiah, *l*	*Brooklyn, N. Y.*	(40 Hart st.)
Wood, Levi Hollingsworth, *l*	*Mt. Kisco, N. Y.*	
Wood, Norton Ellsworth, *s*	*David's Island, N. Y.*	
Woodruff, Harry Adsit, *m*	*New York City*	517 Madison ave.
Woolsey, William Ca Van, *m*	*Jersey City, N. J.*	(16 Belmont ave.)
Wooton, Elmer Ottis, *p*	*Jamestown, O.*	153 East 51st st.
Wormser, Moritz, *c*	*New York City*	836 Fifth ave.
Worthen, Samuel Copp, *c*	*Corinna, Me.*	450 West 47th st.
Wortmann, Martin, *c*	*New York City*	126 East 79th st.
Wright, Charles Chevrier, *s*	*Akron, O.*	69 West 49th st.
Wurthmann, John Henry, *m*	*New York City*	162 East 66th st.
Wyckoff, Hubert Coke, *l*	*Berkeley, Cal.*	595 Lexington ave.

NAME	RESIDENCE	CITY ADDRESS
Yarnell, Dell Elmyrt, *m*	*New York City*	318 West 57th st.
Ybor, Rafael Vincent Martinez, *l*	*Brooklyn, N. Y.*	(263 Stuyvesant ave.)
Yohannan, Isaac, *c*	*New York City*	138 East 48th st.
Young, Roy Demas, *m*	*New York City*	210 West 84th st.
Young, William Bellamy, *m*	*New York City*	257 West 131st st.
Zabriskie, Francis Nicoll, *m*	*Princeton, N. J.*	709 Fifth ave.
Zeiger, Franklin, *c*	*Montclair, N. J.*	
Zerban, Alexander Henry William, *c*	*New York City*	334 Lenox ave.
Zillman, Christian Charles Herman, *l*	*Brunswick, Mo.*	
Zimlick, Arthur John, *m*	*St. Louis, Mo.*	656 Lexington ave.
Zinsser, Hans William, *c*	*New York City*	8 West 68th st.

SUMMARY OF OFFICERS

Professors		60
Adjunct Professors		15
Clinical Professors and Lecturers		14
Demonstrators		3
Assistant Demonstrators		11
Instructors		36
Tutors		29
Assistants		34
Curators		3
Lecturers		15
Chiefs of Clinics		5
Clinical Assistants		64
Officers of Instruction		289
Officers of Administration	13	
Emeritus Officers	9	
		22
Total		311

SUMMARY OF STUDENTS

At Columbia an effort is made to distinguish sharply between the college and the faculties of the university, the latter representing what Columbia believes pedagogically to be the university. From this point of view,

Columbia College is the college

The Faculty of Law
" " " Medicine
" " " Philosophy
" " " Political Science } constitute the university.
" " " Pure Science
" " " Applied Science

College seniors may study under any of the university faculties. The Faculties of Law, Medicine, and Applied Science are professional faculties, and conduct the professional schools, known as the School of Law, the College of Physicians and Surgeons, the School of Mines, the School of Chemistry, the School of Engineering, and the School of Architecture. The Faculties of Philosophy, Political Science, and Pure Science, conduct the work generally organized elsewhere as the graduate school ; but in addition they give much instruction not only to seniors in the college but also to regular students in the professional schools, a large percentage of whom are also college graduates. The table on the following page shows the total number of students studying in the college and under each faculty of the university, and also the number primarily registered in the college and under each faculty of the university. The first set of figures is free from duplication and shows the exact total of students in the university. The second set shows the number studying under each faculty, including duplicates ; the duplication indicates the extent to which Columbia's wide educational tender is treated as a unified tender, regardless of subdivision by schools and faculties.

	Primary Registration		Total Registration
The College:			
Senior class	52		
Junior "	46		
Sophomore "	62		
Freshman "	99		
Specials "	43		
		302	314
The School of Law:			
Third year class	67		
Second " "	104		
First " "	180		
Special students	3		
		354	361
The School of Medicine:			
Third year class	149		
Second " "	156		
First " "	256		
Special students	27		
Unclassified students	22		
		610	613
The Schools of Applied Science:			
Graduate students	4		
Fourth year class	59		
Third " "	79		
Second " "	81		
First " "	146		
Special students	20		
		389	393
The School of Philosophy		91	242
The School of Political Science		64	362
The School of Pure Science		48	101
Total		1858	2386

Academic Calendar

1896—Oct. 5.—First term, 143d year, begins, Monday.
Nov. 3.—Election day, Tuesday, holiday.
Nov. 26.—Thanksgiving day, Thursday, holiday.
Nov. 27.—Friday, holiday.
Dec. 21.—Christmas holidays begin, Monday.
1897—Jan. 2.—Christmas holidays end, Saturday.
Jan. 25.—Mid-year examinations begin, Monday.
Feb. 6.—First term ends, Saturday.
Feb. 8.—Second term begins, Monday.
Feb. 12.—Lincoln's Birthday, Friday, holiday.
Feb. 22.—Washington's birthday, Monday, holiday.
Mar. 3.—Ash-Wednesday, holiday.
April 16.—Good-Friday, holiday.
May 17.—Concluding examinations begin, Monday.
May 30.—Memorial day, Sunday.
May 31.—Monday, holiday.
June 9.—Commencement, Wednesday. Columbia College and Schools of Mines, Chemistry, Engineering, and Architecture, examinations for admission begin.
June 12.—Examinations for admission end, Saturday.
Sept. 27.—Examinations for admission begin, Monday.
Sept. 29.—Matriculation and registration begin, Wednesday.
Oct. 4.—First term, 144th year, begins, Monday.

BARNARD COLLEGE is a college for women, founded in 1889. It is an independent corporation; but it is a part of the educational system of Columbia University.

TEACHERS COLLEGE is a professional school for the training of teachers, founded in 1889. It is an independent corporation; but a part of its work is under the oversight of Columbia University, so that it is, to this extent, a part of the university system.

BARNARD COLLEGE

DEAN

Miss Emily James Smith

TRUSTEES

Chairman,*

Mrs. Joseph H. Choate, *Vice-Chairman*

Hamilton W. Mabie, L.H.D., *Secretary*

George A. Plimpton, *Treasurer*

Mrs. A. A. Anderson
Mrs. Francis B. Arnold
Miss Helen Dawes Brown
Mrs. William C. Brownell
Silas B. Brownell, LL.D.
Mrs. George F. Canfield
Frederic R. Coudert, LL.D.
Mrs. Seth Low
Mrs. Alfred Meyer
Mrs. Henry F. Osborn
Mrs. Henry M. Sanders
Edward W. Sheldon
Mrs. James S. T. Stranahan
Mrs. James T. Talcott
The Rev. Roderick Terry, D.D.
Frederick S. Wait
Everett P. Wheeler
Miss Alice Williams

REGISTRAR

Mrs. N. W. Liggett

* This office is at present vacant, owing to the death of the Rev. Arthur Brooks, D.D.

OFFICERS OF INSTRUCTION

RICHMOND MAYO-SMITH, Ph.D.
Professor of Political Economy and Social Science

EDWIN R. A. SELIGMAN, Ph.D.
Professor of Political Economy and Finance

EDWARD DELAVAN PERRY, Ph.D.
Jay Professor of Greek

A. V. WILLIAMS JACKSON, L.H.D., Ph.D.
Professor of Indo-Iranian Languages

HERBERT L. OSGOOD, Ph.D.
Professor of History

GEORGE R. CARPENTER, A.B.
Professor of Rhetoric and English Composition

* EMILY L. GREGORY, Ph.D.
Professor of Botany

FRANKLIN H. GIDDINGS, M.A.
Professor of Sociology

THOMAS SCOTT FISKE, Ph.D.
Adjunct Professor of Mathematics

JOHN BATES CLARK, Ph.D.
Professor of Political Economy

JAMES RIGNALL WHEELER, Ph.D.
Professor of Greek

FRANK NELSON COLE, Ph.D.
Professor of Mathematics

JAMES HARVEY ROBINSON, Ph.D.
Professor of History

JAMES H. HYSLOP, Ph.D.
Professor of Logic and Ethics

CALVIN THOMAS, A.M.
Professor of the Germanic Languages and Literatures

CARLO L. SPERANZA, B. ès L., A.M.
Professor of the Romance Languages and Literatures

EUGENE HOWARD BABBITT, A.B.
Instructor in the Germanic Languages and Literatures

NELSON G. MCCREA, Ph.D.
Instructor in Latin

* ERNEST R. VON NARDROFF, M.E.
Instructor in Physics

BENJ. DURYEA WOODWARD, Ph.D.
Instructor in the Romance Languages and Literatures

* Not connected with Columbia University.

CHARLES KNAPP, Ph.D.
Assistant in Latin

HERMANN T. VULTÉ, Ph.D.
Tutor in Chemistry

GARY N. CALKINS, B.S.
Tutor in Zoölogy

WILLIAM T. BREWSTER, A.M.
Tutor in Rhetoric

J. BRACE CHITTENDEN, Ph.D.
Tutor in Mathematics

JOHN E. HILL, Ph.D.
Tutor in Mathematics

CURTIS HIDDEN PAGE, Ph.D.
Tutor in the Romance Languages and Literatures

GEORGE C. D. ODELL, Ph.D.
Tutor in Rhetoric

HARRY ALONZO CUSHING, Ph.D.
Tutor in History

WILLIAM ADDISON HERVEY, A.M.
Tutor in the Germanic Languages and Literatures

HERBERT MAULE RICHARDS, S.D.
Tutor in Botany

ARTHUR M. DAY, A.M.
Assistant in Political Economy and Social Science

HENRY J. BURCHELL, Jr., A.M.
Assistant in Latin

RALPH C. RINGWALT, A.B.
Assistant in Rhetoric

In 1883 the Trustees of Columbia College offered degrees to women who should be able to pass the necessary examinations, without, however, providing instruction for them. The resulting system, called *The Collegiate Course for Women*, proved unsatisfactory to both parties. It was found necessary to provide instruction for women which should be identical with or equivalent to that provided by Columbia to men, and in 1889 Barnard College was organized with this purpose in view. It duplicates for women as far as possible the curriculum of Columbia College and also registers for graduate work under the University Faculties women who hold the bachelor's degree from institutions of good standing. Examinations for admission to Barnard College, those given in course, and those for degrees are conducted by Columbia University. During the first three undergraduate years separate instruction is given to women ; in the senior year they are admitted to certain courses in the University. Graduate students attend many courses at Columbia University under the Faculty of Philosophy.

Graduate instruction under the Faculties of Political Science and Pure Science is given at Barnard College.

By the terms of an agreement between Columbia University and Barnard College and Teachers College, students of Teachers College are permitted to attend courses in Barnard College.

This institution offers reciprocal privileges to students of Barnard College.

ADMISSION

Undergraduates. The requirements for admission are the same as those for admission to Columbia University (pp. 151, *ff.*). The examinations are held on the days and at the hours stated on page 152, at Barnard College.

Special Students. Three classes of special students are admitted.

Special Students in Science

1. Courses in chemistry and botany are open to special students. A course of four years in botany is offered on the satisfactory completion of which students are entitled to a certificate of work done. Candidates for admission as special students in chemistry or botany must, save in exceptional cases, where the Executive Committee of the Trustees may order otherwise, pass the examinations for entrance to the College, with the privilege of substituting for Greek either advanced mathematics, or an elementary science with French and German.

Special Students in Political Science

2. Under the Faculty of Political Science special students who can show ability to read French and German are admitted without examination to any course which they are found competent to undertake.

Special Students in Music

3. Special students may be admitted to courses in music without examination in other subjects.

All special students are required to pass examinations upon the work that they do and to conform to the regulations of the college.

Graduates. Women who hold the bachelor's degree from institutions of good standing are enrolled without examination under faculties of the University, and are required to register in Barnard College.

SCHOLARSHIPS AND PRIZES

Trustees' Competitive Scholarship

A Scholarship of $150 is awarded annually to the student who is examined at the college in June and passes the best complete entrance examination in all subjects. The papers of the students who pass free from conditions are examined by the Committee of the Faculty on Entrance Examinations, and the student whose papers as a whole entitle her to the first rank is awarded the scholarship.

Ella Weed Scholarship

A scholarship of $150, founded in memory of Miss Ella Weed by past and present pupils of Miss Anne Brown's school, is awarded annually to a student who needs and deserves assistance.

Veltin School Scholarship

A scholarship of $150, given by the alumnæ of Mlle. Veltin's School, is awarded annually on the same conditions as the Ella Weed Scholarship.

Brooklyn Scholarships

Twelve scholarships, founded by the Trustees of Columbia University in 1895, in recognition of the gift to Columbia University by President Low of a memorial building for the Library, are open for competition to candidates for admission to Barnard College who are residents of Brooklyn, N. Y., and have received their training in either the public or the private schools of that city. Three of these scholarships are awarded annually to the three qualified competitors who are examined at Barnard College in June and pass complete entrance examinations in all subjects. The papers of the competitors who pass without conditions will be examined by the Committee of the Columbia College Faculty on Entrance Examinations, and the three students whose papers as a whole are entitled to the highest rank, will receive the scholarships.

Each scholarship entitles its holder to receive the sum of $150 per annum during the college course; but if she fail to maintain a standing of at least grade C in all of the courses pursued by her, or if she commit any breach of good order, she shall forfeit the scholarship.

Should any recipient desire, she may, while still retaining the title "Brooklyn Scholar," transfer to any properly qualified candidate from Brooklyn the income from the scholarship; and such action on her part will not be made a matter of public record.

All persons intending to compete for these scholarships must submit satisfactory certificates of character and proficiency from the schools which they have last attended, and must state in writing that it is their intention to spend at least one year at Barnard College.

Curtis Graduate Scholarships

Four scholarships of $150 per annum, founded in the same manner as the preceding, will be awarded annually to the four most satisfactory graduate students. One of these scholarships was awarded in 1896, and one will be awarded in each succeeding year until all are available. Applications should be filed before the 1st of May with the Dean of Barnard College. Blanks for this purpose may be obtained on application to the Registrar.

Fiske Graduate Scholarship

A scholarship of $250, founded by Mrs. Josiah M. Fiske, will be awarded annually to the most satisfactory graduate student in Political Science. Applications should be filed before May 1st with the Dean of Barnard College. Blanks for the purpose may be obtained on application to the Registrar.

Herrman Botanical Scholarship

A scholarship of $50, founded by Mrs. Esther Herrman, is applied annually towards the tuition of one or more special students in botany.

Kohn Mathematical Prize

A prize of $50, founded by Mrs. S. H. Kohn, is awarded annually to a Senior for excellence in mathematics. Competitors for this prize must have pursued mathematics continuously during their college course.

Chemistry Prize

A prize of $25 is awarded annually for excellence in Sophomore chemistry.

Bunner Medal

By the terms of its establishment the H. C. Bunner Gold Medal (page 29) is open for competition to students in Barnard College.

It is expected that the college will open in 1897 in its new buildings on Morningside Heights. It will have there enlarged laboratories of physics, chemistry, botany, and zoölogy. Students in Barnard College have the use of the University Library. Applications for information should be addressed to *The Registrar, Barnard College, New York City.*

STUDENTS

The number of students in attendance during the present year is as follows :

Graduates	43
Undergraduates	83
Special Students in Science	22
Special Students in Political Science	18
From Columbia University	1
From Teachers College	1
Special Students in Music	23
Total	191

REGISTER OF STUDENTS

GRADUATE STUDENTS

Annan, Helen Culbertson ..... New York City
A.B., Bryn Mawr College.
Sociology, *Economics*, *French*.

Brown, Mariana Catherine..... ..... New York City
A.B., Vassar College.
Education, *Psychology*, *History*.

Bryson, Mrs. Ella Fitz Gerald..... ..... New York City
A.B., Columbia University.
Greek, *Latin*, *Greek Archæology*.

Burns, Katherine Scott..... Athens, O.
A.B., A.M., Ohio University.
English Literature, *History*.

Burt, Clara Maria..... Plainfield, N. J.
B.Sc., Wellesley College.
Chemistry, *Botany*.

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Latin.

Potter, Eva Sherwood.....Brooklyn, N. Y.
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History.

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Putnam, Ruth.....New York City
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History.

Rowland, Amy Trace Farley.....Lee, Mass.
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Slade, Helen Frances.....Thetford, Vt.
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Sterne, Alice.....New York City
A.B., Smith College.
A.M., Columbia University.
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A.M., Columbia University.
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Education, English, Sociology.

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The purpose of Teachers College is the training of teachers for elementary and secondary schools. The plan of work involves both theory and practice. All professional courses include observation of children, observation, reports, and criticism of class teaching, preparation of lesson plans, and the teaching of classes in the Horace Mann School.

Teaching in the school is conditioned upon knowledge of subject-matter, of pedagogic principles, and upon specific preparation, and is under the supervision of the department to which belongs the subject taught and of the department of Psychology and General Method. The Horace Mann School affords opportunity for observation and practice in all grades of school work, from kindergarten to work preparatory to college and technical schools.

BUILDINGS AND EQUIPMENT

The buildings of the College and Horace Mann School are situated on West 120th and 121st Streets, between Amsterdam Avenue and the Boulevard, opposite the new buildings of Columbia University.

The Macy Manual Arts Building is thoroughly equipped for the departments of Manual Training and Art Education.

All other departments of the College and School and also the Bryson Library, the chapel, and the gymnasium are located in the Milbank and Main Buildings.

College Hall, situated on the corner of Amsterdam Avenue and 117th Street, furnishes dormitory accommodations for women students under the supervision and care of the principal of the College.

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For the purpose of securing to the students of Columbia University, Barnard College, and Teachers College reciprocal advantages and opportunities, an agreement, taking effect July 1, 1893, was entered into between the above named institutions. By the terms of this agreement certain courses of instruction in Teachers College are accepted as counting toward the Columbia University degrees.

The courses under this arrangement, offered by Teachers College in Psychology and General Methods, Institutes of Education, School Supervision; and Methods of Teaching Science, English, History, Latin, and Greek, and Manual Training are described under the Department of Philosophy, Psychology, and Education, see p. 126. Under the Department of Mechanical Engineering, p. 70, are found the courses in shopwork offered at Teachers College.

Applications for the Teachers College circular of information or for other printed matter should be made to the *Registrar of Teachers College, Morningside Heights, 120th St., West.*

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